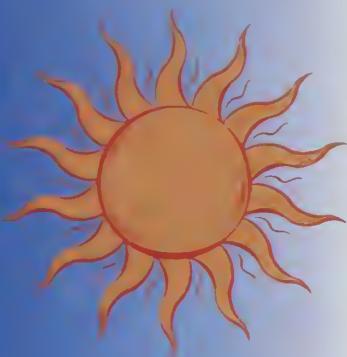


# WISE



# BESUN



EPA 430-H-94-003 February 1995



# WHAT IS THE ULTRAVIOLET (UV) INDEX?

While some exposure to sunlight can be enjoyable, too much is dangerous, causing immediate effects like blistering sunburns, as well as longer-term problems like skin cancer and cataracts. Developed by the National Weather Service (NWS) and the Environmental Protection Agency (EPA), the Ultraviolet (UV) Index provides important information to help you plan your outdoor activities in ways that prevent overexposure to the sun's rays. By following the few simple precautions below, you can greatly reduce your risk of sun related injuries. When the Index is High or Very High, try to minimize your outdoor activities between the peak hours of 10 AM and 4 PM when the sun is most intense. When the Index is 10 or higher, stay indoors if possible, otherwise be sure to take all the other necessary precautions. Watch closely for the UV Index reports in your local newspapers and on television, and remember to Be Sun Wise! For more information call 1-800-296-1996.

## WHAT DOES THE INDEX MEAN?





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# Ban the Burn



## Community Resource Guide

Massachusetts Department of Public Health  
1998



# ACTION STEPS FOR SUN PROTECTION



## TOO MUCH SUNLIGHT CAN BE DANGEROUS....

Being outside on a warm, sunny day is one of life's great pleasures, but getting too much sun can be dangerous. Excessive sun exposure can result in painful sunburn, but can also lead to other serious health problems, including melanoma, a life-threatening form of skin cancer. Melanoma is one of the fastest growing forms of cancer in the U.S. New melanoma cases in the U.S. have more than doubled over the past two decades, with an estimated 6,900 American deaths from the disease in 1994. In addition to melanoma, excessive UV exposure can lead to premature aging of the skin, cataracts, non-melanoma skin cancers, and immune system suppression.

### BE SUN WISE

Protecting yourself from overexposure to UV radiation is simple:



#### WEAR SUNGLASSES THAT BLOCK 99-100% OF UV RADIATION

Sunglasses that provide 99-100% UVA and UVB protection will greatly reduce sun exposure that can lead to cataracts and other eye damage. Check the label when buying sunglasses.



#### WEAR A HAT

A hat with a wide brim offers good sun protection to your eyes, ears, face, and the back of your neck — areas particularly prone to overexposure to the sun.



#### PROTECT OTHER AREAS OF YOUR BODY WITH CLOTHING DURING PROLONGED PERIODS IN THE SUN

Tightly-woven, loose-fitting clothes are best, but any clothing is better than none at all.



#### ALWAYS USE A SUNSCREEN WHEN OUTSIDE ON A SUNNY DAY

A sunscreen with a Sun Protection Factor (SPF) of at least 15 blocks most harmful UV radiation. Apply sunscreen liberally and reapply every two hours when working, playing, or exercising outdoors. Even waterproof sunscreen can come off when you towel off sweat or water.



#### AVOID THE MIDDAY SUN AS MUCH AS POSSIBLE

The sun's UV rays are strongest between 10 a.m. and 4 p.m. To the extent you can, limit exposure to the sun during these hours.



#### AVOID SUNLAMPS AND TANNING PARLORS

Sunbeds damage the skin and unprotected eyes and are best avoided entirely.

## UV INDEX



### WATCH FOR THE UV INDEX

The UV Index, developed by the National Weather Service and the Environmental Protection Agency, provides a forecast of the expected risk of overexposure to the sun and indicates the degree of caution you should take when working, playing, or exercising outdoors. The UV Index predicts exposure levels on a 0 - 10+ scale, where 0 indicates a minimal risk of overexposure, and 10+ means a very high risk of overexposure. Calculated on a next-day basis for dozens of cities across the U.S. by the National Weather Service, the UV Index takes into account clouds and other local conditions that affect the amount of UV radiation reaching the ground in different parts of the country.

### FOR MORE INFORMATION

To learn more about the UV Index, call EPA's Stratospheric Ozone Hotline at (800) 296-1996. Hotline staff can supply you with other fact sheets in this series, as well as other useful information.



# HEALTH EFFECTS OF OVEREXPOSURE TO THE SUN



Americans love the sun, and spend increasing amounts of time outside — working, playing, exercising — often in clothing that exposes a lot of skin to the sun. Most people are now aware that too much sun has been linked to skin cancer, but few know the degree of risk posed by overexposure, and fewer are aware that the risks go beyond skin cancer. Recent medical research has shown that overexposure to the sun's ultraviolet (UV) radiation can contribute to serious health problems.

This fact sheet provides a quick overview of the major problems linked to UV exposure: skin cancer (melanoma and non-melanoma), other skin problems, cataracts, and immune system suppression. Understanding these risks and taking a few sensible precautions (described in other UV Index fact sheets) will help you to enjoy the sun while lowering your chances of sun-related health problems later in life.

## MELANOMA

Melanoma, the most serious form of skin cancer, is also one of the fastest growing types of cancer in the U.S. Many dermatologists believe that there may be a link between childhood sunburns and malignant melanoma later in life. Melanoma cases in this country have almost doubled in the past two decades, with at least 32,000 new cases of melanoma and 6,900 deaths estimated for 1994 alone. The rise in melanoma cases and deaths in America is expected to continue.

### CURE RATE

Melanoma can spread to other parts of the body quickly, but when detected in its earliest stages it is almost always curable. If not caught early, melanoma is often fatal.

### WHAT TO WATCH FOR

Melanoma begins as an uncontrolled growth of pigment-producing cells in the skin. This growth leads to the formation of dark-pigmented malignant moles or tumors, called melanomas. Melanomas may suddenly appear without warning, but may also develop from or near a mole. For that reason it is important to know the location and appearance of moles on the body so any change will be noticed. Melanomas are found most frequently on the upper backs of men and women, and the legs of women, but can occur anywhere on the body.

Be aware of any unusual skin condition, especially a change in the size or color of a mole or other darkly or irregularly pigmented growth or spot; scaliness, oozing, bleeding or change in the appearance of a bump or nodule; spread of pigment from the border into surrounding skin; and change in sensation including itchiness, tenderness, or pain.

## NON-MELANOMA SKIN CANCERS

Unlike melanoma, non-melanoma skin cancers are rarely fatal. Nevertheless, they should not be taken lightly. Untreated, they can spread, causing more serious health problems. An estimated 900,000 Americans developed non-melanoma skin cancers in 1994, while 1,200 died from the disease.

There are two primary types of non-melanoma skin cancers:

**Basal Cell Carcinomas** are tumors of the skin which usually appear as small, fleshy bumps or nodules on the head and neck, but can occur on other skin areas as well. It is the most common skin cancer found among fair-skinned people. Basal cell carcinoma does not grow quickly, and rarely spreads to other parts of the body. However, it can penetrate below the skin to the bone and cause considerable local damage.

**Squamous Cell Carcinomas** are tumors which may appear as nodules or as red, scaly patches. The second most common skin cancer found in fair-skinned people, squamous cell carcinoma is rarely found in darker-skinned people. This cancer can develop into large masses, and unlike basal cell carcinoma, it can spread to other parts of the body.

## CURE RATE

These two non-melanoma skin cancers have high cure rates — as high as 95 percent if detected and treated early. The key is to watch for signs and to detect the cancer in its early stages.

## WHAT TO WATCH FOR

Basal cell carcinoma tumors usually appear as slowly growing, raised, translucent, pearly nodules which, if untreated, may crust, discharge pus, and sometimes bleed. Squamous cell carcinomas usually are raised, red or pink scaly nodules or wart-like growths that form pus in the center. They typically develop on the edge of the ears, the face, lips, mouth, hands and other exposed areas of the body.

## ACTINIC KERATOSES

These sun-induced skin growths occur on body areas exposed to the sun. The face, hands, forearms and the "V" of the neck are especially susceptible to this type of blemish. They are pre-malignant, but left untreated, actinic keratoses can become malignant. Look for raised, reddish, rough-textured growths. See a dermatologist promptly if you notice these growths.

## PHOTOAGING

Chronic exposure to the sun causes changes in the skin called actinic, or solar, degeneration. The skin over time becomes thick, wrinkled, and leathery. This condition has often been referred to as "premature aging" of the skin. Since it occurs gradually, often manifesting itself many years after the majority of a person's exposure to the sun, photoaging is often regarded as an unavoidable condition, a normal part of growing older. With proper protection from UV radiation, however, photoaging can be substantially avoided.

## CATARACTS AND OTHER EYE DAMAGE

Cataracts are a form of eye damage, a loss of transparency in the lens which clouds vision. Left untreated, cataracts can rob people of vision. Research has shown that UV radiation increases the likelihood of certain cataracts. Although curable with modern eye surgery, cataracts diminish the eyesight of millions of Americans, and necessitate millions of dollars of eye surgery each year. Other kinds of eye damage include: pterygium (tissue growth on the white of the eye that can block vision), skin cancer around the eyes, and degeneration of the macula (the part of the retina near the center, where visual perception is most acute). All of these problems could be lessened with proper eye protection from UV radiation.

## IMMUNE SUPPRESSION

Scientists have found that sunburn can alter the distribution and function of disease-fighting white blood cells in humans for up to 24 hours after exposure to the sun. Repeated exposure to UV radiation may cause more long-lasting damage to the body's immune system. Mild sunburns can directly suppress the immune functions of human skin where the sunburn occurred, even in people with dark skin.

## ABOUT THE UV INDEX...

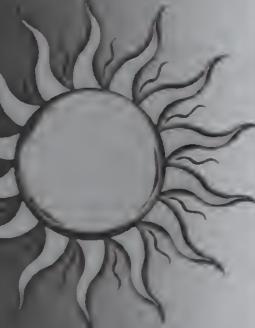
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## FOR MORE INFORMATION

To learn more about the UV Index and how to protect yourself from overexposure to the sun's UV rays, call EPA's Stratospheric Ozone Hotline at (800) 296-1996. Hotline staff can supply you with other fact sheets in this series, as well as other useful information.



UV



RAD

# UV RADIATION



The sun gives out energy over a broad spectrum of wavelengths. Ultraviolet (UV) radiation, which has a shorter wavelength than either visible blue or violet light, is responsible for sunburn and other adverse health effects. Fortunately for life on earth, stratospheric ozone screens most harmful UV radiation. However, what gets through the ozone layer can cause a number of problems, particularly for people who spend substantial time outdoors:

- skin cancer
- cataracts
- immune suppression
- premature aging of the skin

Because of these adverse health effects, limit your exposure to UV radiation and protect yourself when working or recreating outdoors.

## **TYPES OF UV RADIATION**

Scientists have classified UV radiation into three types or bands — UVA, UVB, and UVC. The stratospheric ozone layer absorbs some but not all of these types of UV:

### **UVA**

Not absorbed by the ozone layer

### **UVB**

Mostly absorbed by the ozone layer, but some does reach the earth's surface

### **UVC**

Completely absorbed by the ozone layer

UVA and especially UVB penetrate the surface of the skin and can cause the adverse health effects listed above.

## **UV LEVELS DEPEND ON A NUMBER OF FACTORS -**

### **STRATOSPHERIC OZONE**

The ozone layer absorbs most of the sun's harmful UV rays, but varies depending on the time of year and changing weather patterns. The ozone layer has thinned in certain areas due to emissions of ozone-depleting chemicals widely used in industry.

### **TIME OF DAY**

The sun is at its highest in the sky around the noon hour. At this time, the sun's rays have the least distance to travel through the atmosphere and UVB levels are at their highest. In the early morning and late afternoon the sun's rays pass obliquely through the atmosphere and the intensity of UVB is greatly reduced. UVA levels are not sensitive to ozone and vary throughout the day much like visible sunlight does.

### **TIME OF YEAR**

The sun's angle varies with the seasons, causing the intensity of UV rays to vary. UV intensity tends to be highest during the summer months.

## LATITUDE

The sun's rays are strongest at the equator where the sun is most directly over head and UV rays must travel the least distance through the atmosphere. Ozone is also naturally thinner in the tropics compared to the mid- and high-latitudes, so there is less ozone to absorb the UV radiation as it passes through the atmosphere. At higher latitudes the sun is lower in the sky, so UV rays must travel a greater distance through ozone-rich portions of the atmosphere and in turn expose those latitudes to less UV radiation.

## ALTITUDE

UV intensity increases with altitude because there is less atmosphere to absorb the damaging rays.

## WEATHER CONDITIONS

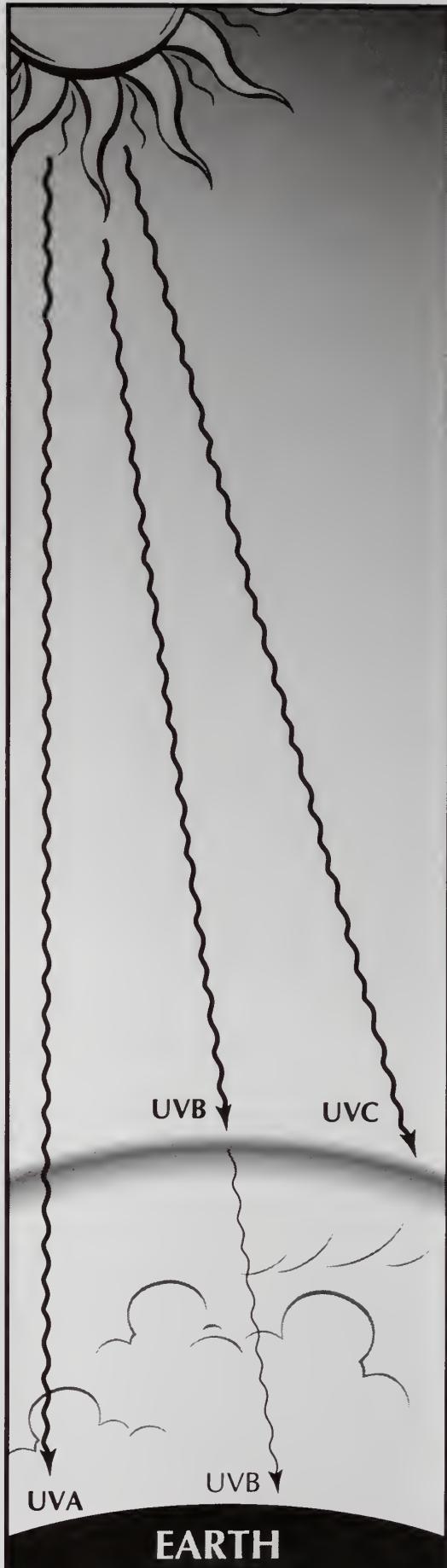
Cloud cover reduces UV levels, but not completely. Depending on the thickness of the cloud cover, it is possible to burn on a cloudy summer day even if it doesn't feel very warm.

## ABOUT THE UV INDEX

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## FOR MORE INFORMATION...

To learn more about the UV Index, the ozone layer, and actions being taken to prevent ozone depletion, call EPA's Stratospheric Ozone Hotline at (800) 296-1996.



THE STRATOSPHERIC OZONE LAYER SCREENS OUT  
MUCH OF THE SUN'S HARMFUL UV RADIATION

# SUN PROTECTION FOR CHILDREN



## SUN EXPOSURE CAN BE DANGEROUS

Being outside on a warm, sunny day is one of life's great pleasures for children, but too much sun can be dangerous. Overexposure to the sun's ultraviolet (UV) radiation not only causes painful sunburn, but can lead to other serious health problems, including melanoma, a life-threatening form of skin cancer. Even one or two blistering sunburns during childhood may double the risk of melanoma later in life. Melanoma is one of the fastest growing forms of cancer in the U.S., largely due to the increasing time Americans spend in the sun, many experts believe. New melanoma cases in the U.S. have more than doubled over the past two decades, with an estimated 6,900 American deaths from the disease in 1994. In addition to melanoma, excessive UV exposure can lead to premature aging of the skin, cataracts, non-melanoma skin cancers, and immune system suppression.

## SPECIAL CONSIDERATIONS FOR CHILDREN

Although many of the sun's worst effects do not appear until later in life, recent medical research has shown that it is very important to protect children and teenagers from overexposure to UV radiation. The majority of most people's sun exposure occurs before age 20, and studies increasingly suggest a link between early exposure and skin cancer as an adult.



## HELPING CHILDREN BE SUN WISE

The following precautions can help ensure that the children around you avoid UV-related health problems, both now and later in life. Started early and followed consistently, each of these steps will become an easy, accepted habit, no more bothersome than fastening seatbelts every time you drive the car.



WEAR SUNGLASSES THAT BLOCK 99-100% OF UV RADIATION

**UV-A PROTECTION 99-100% UVA & UVB**  
Sunglasses that provide 99-100% UVA and UVB protection will greatly reduce sun exposure that can lead to cataracts and other eye damage. Check the label when buying sunglasses.



## WEAR A HAT

A hat with a wide brim offers good sun protection to your child's eyes, ears, face, and the back of the neck — areas particularly prone to overexposure.



#### PROTECT OTHER AREAS WITH CLOTHING

#### DURING PROLONGED PERIODS IN THE SUN

Tightly-woven, loose-fitting clothes are best, but any clothing is better than none at all.



ALWAYS USE SUNSCREEN WHEN OUTSIDE ON A SUNNY DAY

A sunscreen with a Sun Protection Factor (SPF) of at least 15 blocks most harmful UV radiation. Apply sunscreen liberally before your child goes out, and reapply every two hours if your child has been perspiring or swimming. Even waterproof sunscreens can come off when your child towels off sweat or water. Children under six months of age should never have sunscreen applied to their skin, but should be protected by avoiding too much time outdoors.



AVOID THE MIDDAY SUN AS MUCH AS POSSIBLE

The sun's UV rays are strongest between 10 a.m. and 4 p.m. To the extent you can, limit your child's exposure to the sun during these hours.

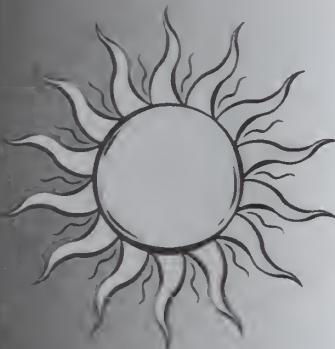


#### WATCH FOR THE UV INDEX

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FOR MORE INFORMATION

To learn more about the UV Index and how to protect your child and yourself from overexposure to the sun's UV rays, call EPA's Stratospheric Ozone Hotline at (800) 296-1996. Hotline staff can supply you with other fact sheets in this series, as well as other useful information.

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# OZONE DEPLETION



The ozone layer forms a thin shield in the stratosphere, protecting life on earth from the sun's harmful ultraviolet (UV) rays. In the 1980s, scientists began accumulating evidence that the ozone layer was being depleted. Depletion of the ozone layer can result in increased UV radiation reaching the earth's surface, which can lead to greater chance of overexposure to UV and the consequent health effects, including skin cancer, cataracts, and immune suppression.

## HOW STRATOSPHERIC OZONE PROTECTS US

Ozone is a naturally occurring gas found in the earth's atmosphere that absorbs certain wavelengths of the sun's UV radiation. Ozone is concentrated in a part of the atmosphere called the stratosphere. Stratospheric ozone is most concentrated between 6-30 miles above the earth's surface.

Ozone is formed when oxygen molecules absorb UV radiation and split apart into two oxygen atoms (O), which combine with other oxygen molecules (O<sub>2</sub>), to form ozone molecules (O<sub>3</sub>). Ozone is also broken apart as it absorbs UV radiation. In this way, UV helps sustain the natural balance of ozone in the stratosphere, while ozone in turn absorbs UV, protecting life on earth from harmful radiation.

## OZONE DEPLETION

Chlorofluorocarbons (CFCs) are used widely in industry and elsewhere as refrigerants, insulating foams, and solvents. They migrate into the upper atmosphere after use. Because they are heavier than air, they have to be carried by air currents into the stratosphere, a process that can take as long as 5 to 10 years. These chemicals absorb UV radiation, break apart, and react with ozone, taking one oxygen atom away and forming highly reactive chlorine monoxide. Chlorine monoxide (ClO) in turn breaks down O<sub>3</sub> again by pulling away a single oxygen atom, creating two O<sub>2</sub> molecules, and allowing the Cl to move freely to another ozone molecule. In this way each chlorine atom acts as a catalyst, repeatedly combining with and breaking apart as many as 100,000 ozone molecules during its stratospheric life.

Other compounds also damage the ozone layer in much the same way as do CFCs. These ozone-depleting substances include pesticides such as methyl bromide, halons used in fire extinguishers, and methyl chloroform used in industrial processes.

## WHAT IS BEING DONE ABOUT OZONE DEPLETION

Countries around the world have recognized the threats posed by ozone depletion and have responded by adopting the Montreal Protocol on Substances That Deplete the Ozone Layer. Parties to this treaty, including the United States, are phasing out the production of ozone-depleting substances.

## EFFECT OF OZONE LAYER DEPLETION ON UV RADIATION LEVELS

Scientists predict that CFC levels should peak by the turn of the century and should fall to 1979 levels between the years 2020 and 2050. As international control measures reduce the release of CFC's and other ozone depleting substances, the natural atmospheric process will repair the ozone layer. Until that time, we can expect increased levels of UV at the Earth's surface. These increased UV radiation levels can lead to a greater chance of overexposure to UV radiation and the consequent health effects.

## ABOUT THE UV INDEX

The UV Index, developed by the National Weather Service and the Environmental Protection Agency, provides a forecast of the expected risk of overexposure to the sun and indicates the degree of caution you should take when working, playing, or exercising outdoors. The UV Index predicts exposure levels on a 0 - 10+ scale, where 0 indicates a minimal risk of overexposure, and 10+ means a very high risk of overexposure. Calculated on a next-day basis for dozens of cities across the U.S. by the National Weather Service, the UV Index takes into account clouds and other local conditions that affect the amount of UV radiation reaching the ground in different parts of the country.

## BE SUN WISE

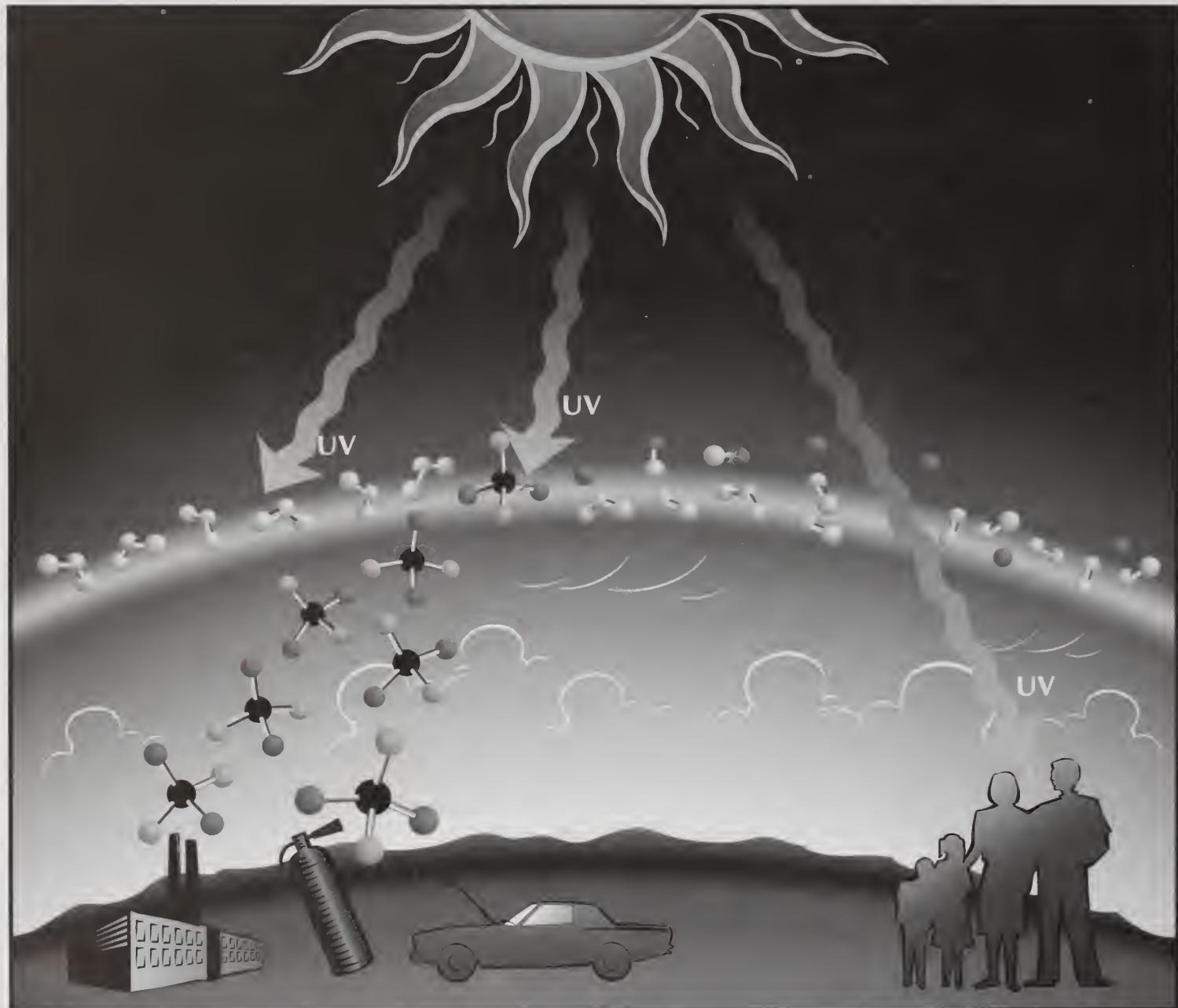
The goals of the UV Index Program are to:

1. Raise awareness of the risks from overexposure to the sun's UV radiation;
2. Provide people in all parts of the U.S. with the information they need to protect themselves from overexposure; and
3. Ultimately reduce the incidence of skin cancer, cataracts, and other UV-related health problems.

## FOR MORE INFORMATION

To learn more about the UV Index, the ozone layer, and actions being taken to prevent ozone depletion, call EPA's Stratospheric Ozone Hotline at (800) 296-1996.

**The use and emission of ozone-depleting substances damages the stratospheric ozone layer, allowing more ultraviolet rays to reach the earth's surface and cause adverse human health effects.**



# **Ban the Burn**

## **A Resource Guide**

### **for Sun Protection Education**

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William D. O'Leary, Secretary of Health and Human Services  
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Massachusetts Department of Public Health  
1998

Prepared by:  
The Massachusetts Department of Public Health, Bureau of Family and  
Community Health, Division of Prevention



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## Purpose

The Safe Skin Project is designed to educate children age 0-13 and their parents and caregivers about the dangers of sunburn and skin cancer. Studies have shown that painful sunburns during the first 18 years of life are linked to the occurrence of the most deadly form of skin cancer, melanoma. Therefore, it is important to begin preventive measures as early as possible.

This handbook is designed to help local communities start a Safe Skin Project. Communities may choose to do one or all of the programs described.

The incidence of skin cancer is on the rise. Current estimates are that 50% of Americans will have some form of skin cancer before the age of 65. According to the Skin Cancer Foundation, three or more blistering sunburns before the age of 20 may increase by five-fold the risk of developing malignant melanoma.

Skin cancer rates are increasing by four percent each year. According to the American Academy of Dermatology, currently Americans have a one in 84 risk for developing melanoma in their lifetime. In 1980, the risk was one in 250 Americans. At four percent per year, it is estimated that by the year 2000 the lifetime risk will be one in 75. Sun protection is necessary whenever we are outdoors and during all seasons of the year, not just at the beach. The project addresses these issues by demonstrating ways to protect skin in all kinds of environments.

The Safe Skin Project focuses its efforts on community wide interventions modeled after a successful pilot program in Falmouth, Massachusetts, implemented by the Massachusetts Department of Public Health with funding from the United States Centers for Disease Control and Prevention. Through work with preschool directors, the local health department, schools, hospitals, the recreation department, and the beach department, and under the guidance of a community advisory committee, town residents have adopted a healthier attitude toward exposure to sunlight.

The Massachusetts project is one of several sun protection programs around the country. This handbook includes materials developed by several of these programs. As research indicates, the best way to prevent skin cancer is by targeting children and their parents with the "ban the burn" message in order to reduce the risk of malignant melanoma and other skin cancers in the years to come.



## Skin Cancer Fact Sheet

- Skin cancer is the most common form of cancer in the United States today.
- Approximately 1,000,000 cases of new skin cancer will be diagnosed this year.
- Intermittent exposure (such as on a beach vacation or a skiing weekend), as well as chronic exposure, lead to a higher risk of developing skin cancer.
- 3 or more sunburns before the age of 20 increases the risk of malignant melanoma 5 times.
- The American Cancer Society estimates 9,200 deaths in 1998 from skin cancer.
  - melanoma -- 7,300 deaths
  - other skin cancers -- 1,900 deaths
- Since 1973, the incidence rate of melanoma has increased by 4% each year.
- The incidence of melanoma doubled among the nation's white population between 1973 and 1991.
- Melanoma is more common than any other cancer (except other forms of skin cancer) among people between the ages of 25 and 29 years old.

### *What is the Safe Skin Project?*

The Safe Skin Project has been developed to increase sun safety awareness. The primary goal is to influence sun protection behavior among children under 13 and help their parents and caregivers to create a safe sun environment. The easiest way to protect against skin cancer is to "Ban the Burn".

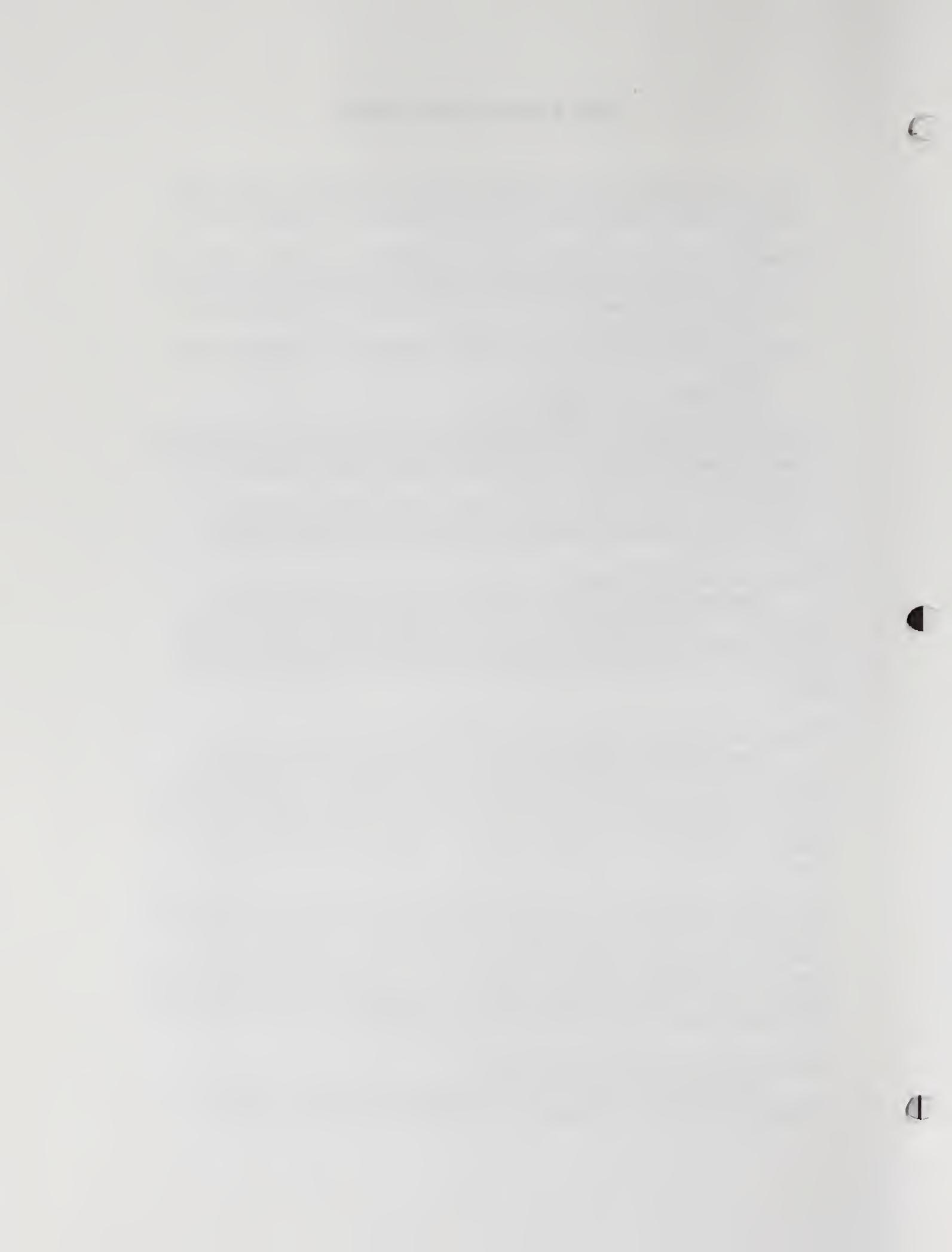
### *What is ultraviolet light and how does it affect the skin?*

Ultraviolet light is radiation given off by the sun. These rays can be harmful to the skin. Radiation damages the skin's cells by creating changes in the skin's DNA which affect many of the cells' functions. Two types of ultraviolet radiation can damage the skin, UVA and UVB rays. UVB rays have long been linked to melanoma. They are the rays that cause visible sunburns and sun damage.

For many years, UVA light was viewed as not as harmful. Now we know that although UVA radiation is less energetic than UVB radiation, it penetrates the top layers of the skin damaging the lowest layers. It causes wrinkles by weakening the dermis, the lowest level of the skin. This photo-aging (wrinkles, sunspots, and loss of elasticity) contributes to much of the skin damage caused by aging. Also, UVA is not absorbed into the atmosphere as efficiently as UVB and can be harmful during morning and late afternoon.

### *How does ultraviolet light affect the eyes?*

Ultraviolet light can be extremely damaging to the eyes. In addition to causing skin cancer, the sun can cause cataracts and other eye damage.



Cataracts are one of the leading causes of blindness. Polarized sunglasses that block UVA and UVB light can help protect eyes from the sun.

#### *What is the effect of a tan?*

A tan appears due to the increase in the production of melanin in the skin's melanocytes. Melanin is carried to the surface giving the appearance of a suntan, which, in fact, is an indication of sun damage. In addition to causing various skin cancers, chronic exposure to the sun when young causes delayed changes in the skin later in life such as "senile skin" (wrinkles, dryness, permanent dilation of blood vessels) and "sailor's skin" (skin weakened by deep structural changes, permanent wrinkles, thickening, hyperpigmentation, freckles, age spots). The important thing to remember is: what was once considered a healthy tan may be the first sign of skin cancer risk.

#### *What is skin cancer?*

There are three major types of skin cancer: melanoma, squamous cell carcinoma, and basal cell carcinoma. **Basal cell carcinoma** is the most common form of skin cancer and also the most curable. It appears around the age of 40-50 on areas which have been exposed to the sun. It varies in appearance and is due to prolonged exposure to the sun. **Squamous cell carcinoma** is a little less common than basal cell but is also curable. It often appears on the head and hands and can spread if neglected. It usually occurs in people older than age 50. **Malignant melanoma** is the least common and most dangerous form of skin cancer. When left undetected, it is the most likely form to cause death. (Squamous cell carcinoma can also be deadly, but less frequently). It usually appears as a bluish blackish mole on the body that begins to change size or color. Use the ABCD rule to determine if a mole has changed:

**A**symmetry- one half of the mole doesn't match the other

**B**order Irregularity- the edges are ragged and irregular

**C**olor- the pigmentation throughout the spot are irregular (white, red, blue, black)

**D**iameter- greater than 6mm (about the size of a pencil eraser)

See your doctor if any skin growth has changed in size or color.

#### *Is my skin type at risk?*

Pigment is our natural sunscreen. Sun sensitivity depends on how much natural sunscreen your skin has. Light colored skin has less pigmentation and, therefore, is more sensitive to the sun's rays; light skinned people sunburn easily and, if they have spent many hours in the sun, show greater signs of aging later in life. They are in the "high risk" category for melanoma. Dark skin is less sensitive to the sun, and, therefore, is at a lower risk for melanoma. However, even someone with dark skin can still develop melanoma. **It is important to remember the risk of developing skin cancer increases with the amount of time spent unprotected in the sun regardless of your skin type.**



### *What if I'm in the sun only on vacation?*

Scientists have found that intense intervals in the sun, especially in childhood, can increase the risk for skin cancer. This means that people who spend most of the year indoors but vacation in the sun for short intense periods are also at risk of developing melanoma. One vacation week a year of unprotected time in the sun can increase risk.

### *What precautions should I take when I'm out in the sun?*

Follow the ABC'S of sun protection. Stay **AWAY** from the sun during the peak hours at mid day, **BLOCK** the sun's rays by applying sunscreen throughout the day, **COVER** up with hats, sunglasses, long-sleeve shirts, and long pants when outdoors, and finally, seek **SHADE** during peak sun hours. Following these simple rules can lower your risk of developing skin cancer.

### *What is the difference between sunblock and sunscreen?*

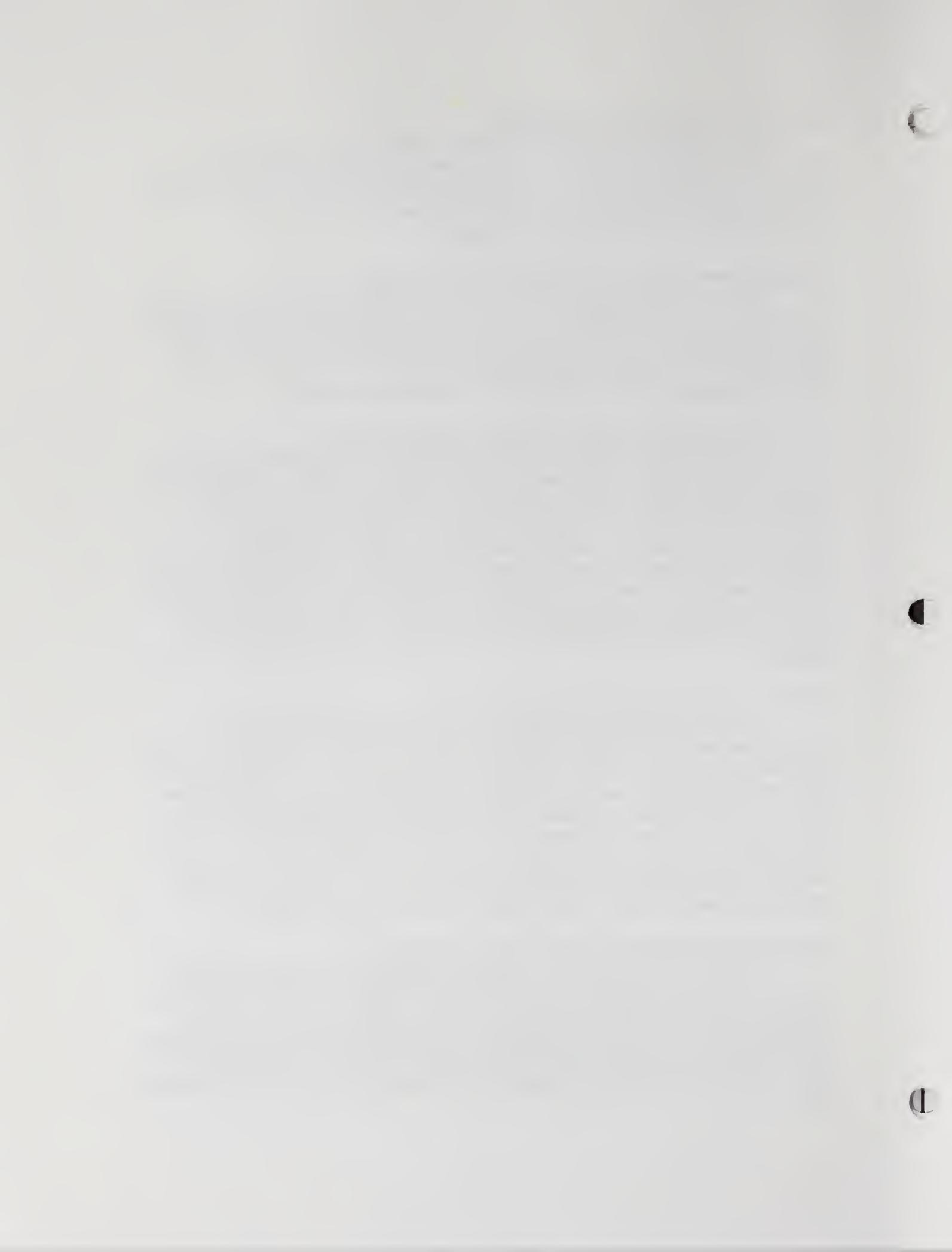
Sunblock and sunscreen are effective ways to shield the skin from the harmful rays of the sun. Sunscreens absorb ultraviolet radiation, primarily UVB radiation while sunblocks block both UVA and UVB radiation. The effective ingredients of both sunscreens and sunblocks can deteriorate over time, thus rendering them ineffective. **Check the expiration date on the bottle.** Sunscreen and sunblock should not be used on infants under 6 months of age. Infants should be covered with protective clothing and kept in the shade. Hats, long sleeve shirts, and long pants protect people of all ages from the sun's harmful rays. Polarized sunglasses should be worn to protect the eyes from damage.

### *Are the sun's rays stronger at different times?*

The sun's rays are strongest when the sun is closest to the earth or directly overhead. This occurs usually between the hours of 10am-4pm. To test the strength of the sun, conduct a shadow test. Stand in an open area, if your shadow is shorter than you are, the sun is high in the sky and you should take cover. As your shadow lengthens, the sun moves further away from the earth and the strength of the rays decreases. The time of year must also be taken into consideration. The sun is stronger in the summer than in the winter. It is also stronger at higher altitudes and lower latitudes. Most ski areas are at higher altitudes and warm weather vacation spots are in the lower latitudes.

### *Are tanning beds healthier than the sun's natural rays?*

No, they are not healthier. Tanning beds and sunlamps primarily use UVA rays which manufacturers have claimed produces a healthier tan than the sun because there is little UVB radiation. Unfortunately, all UV radiation is damaging to the skin, and people who both frequent tanning beds and spend a lot of time outdoors suntanning as well increase their risk of sun damage and skin cancer even more by increasing the time they spend under harmful radiation rays.

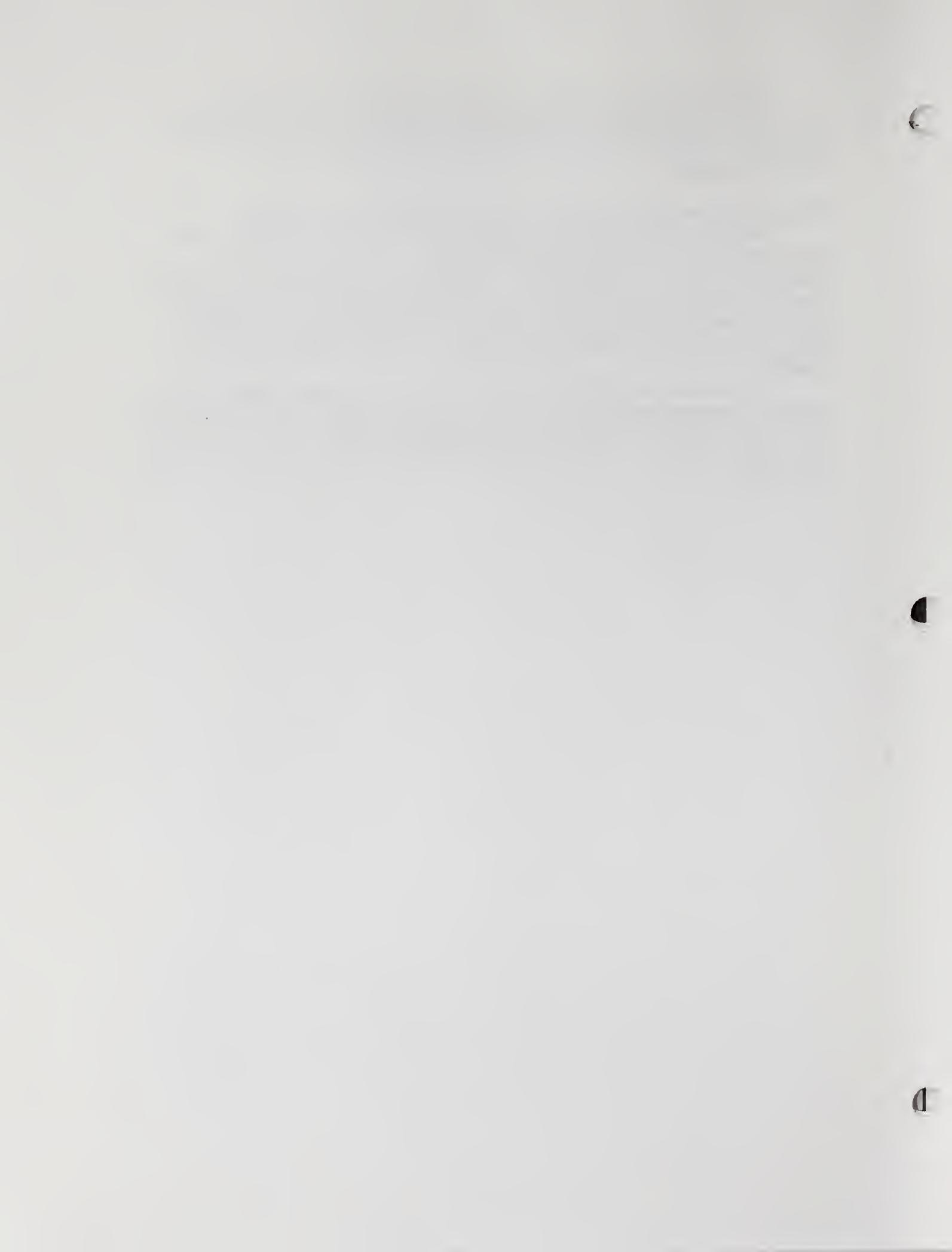


Massachusetts law, *MGL C. 111, S.209*, requires tanning facilities to provide all consumers with a written statement, and to post a sign of specified dimensions, warning of the risk of skin cancer from repeated exposure to ultraviolet radiation.

*What is the Ultraviolet Index and how does it relate to sun protection?*

The Ultraviolet Index or UV Index was created by the National Weather Service and the Environmental Protection Agency to gauge the effects of exposure to the sun's ultraviolet rays. The Index describes this on a 1-10 scale, 1 being minimal exposure and 10+ being very high exposure. The daily UV Index is sometimes listed in the newspapers and announced during weather reports. In order to know your safe sun time, check for it before venturing outside.

UV exposure depends on the time of day, season of year, latitude, and altitude. Clouds partially screen UV rays, but not completely. On the other hand, water, sand, and snow reflect UV rays amplifying one's exposure to the sun. In any environment, the amount of time outdoors effects the level of skin exposure to UV rays.



## Involving the Community

The success of your program largely depends on its acceptance by the community. Ideally, once established, the program will run on the efforts of the community members involved. The method by which the community is approached can affect the level of acceptance and eventual success of the program. The community's attitude toward sun tanning, sun protection, and working and playing outdoors must be assessed and understood before any steps are taken to change behavior. In a community with an affinity for the sun, it is important not to alienate residents. Take care not to preach the message of avoiding the sun, but to involve the community in helping to create a Safe Skin town.

In order to begin assessing attitudes of the people toward sun protection, consider the town's proximity to the ocean, the availability of pools, lakes, and/or ski areas, the area's climate, and its emphasis on outdoor activities. If these are not factors, consider vacation practices. Community may take numerous vacations throughout the year to ski areas or resorts in warm climates. From these variables, decide on which aspects of the program to focus. In towns where activities in the sun are a way of life, take caution not to "turn off" the community to your program - focus on moderation and Safe Skin practices while enjoying outdoor activity.

Next, find out what citizen groups and civic organizations exist in the town: clubs, churches, parent groups, schools, and professional organizations. Contact representatives of the local health department, daycare centers, recreation and beach departments, ski areas, sports associations, libraries, and schools and colleges. Contact town officials, dermatologists and other medical professionals, church leaders, youth group leaders, school administration, hospital representatives, parents, teachers business owners, sports team representatives, child care center representatives, and anyone who shows interest in the program. Speak to each of these potential key leaders and explain the importance of the program. Also, through the town hall, contact the departments and organizations which are part of the town government such as the recreation, health, and school departments. You can find much of this information through your town or city hall and the library. Understanding the community and learning what organizations it hosts prepares you for the next step, forming a committee or coalition. If this is a health department project, knowledge of the communities resources may be readily available.

There are several different ways to get your program started. The quickest way to get the program on its feet is to find an organization already established in the community ready to adopt the Safe Skin Project. This type of organization would likely have a goal or mission in keeping with the goals of the Safe Skin Project. By incorporating the Safe Skin Project into a pre-existing



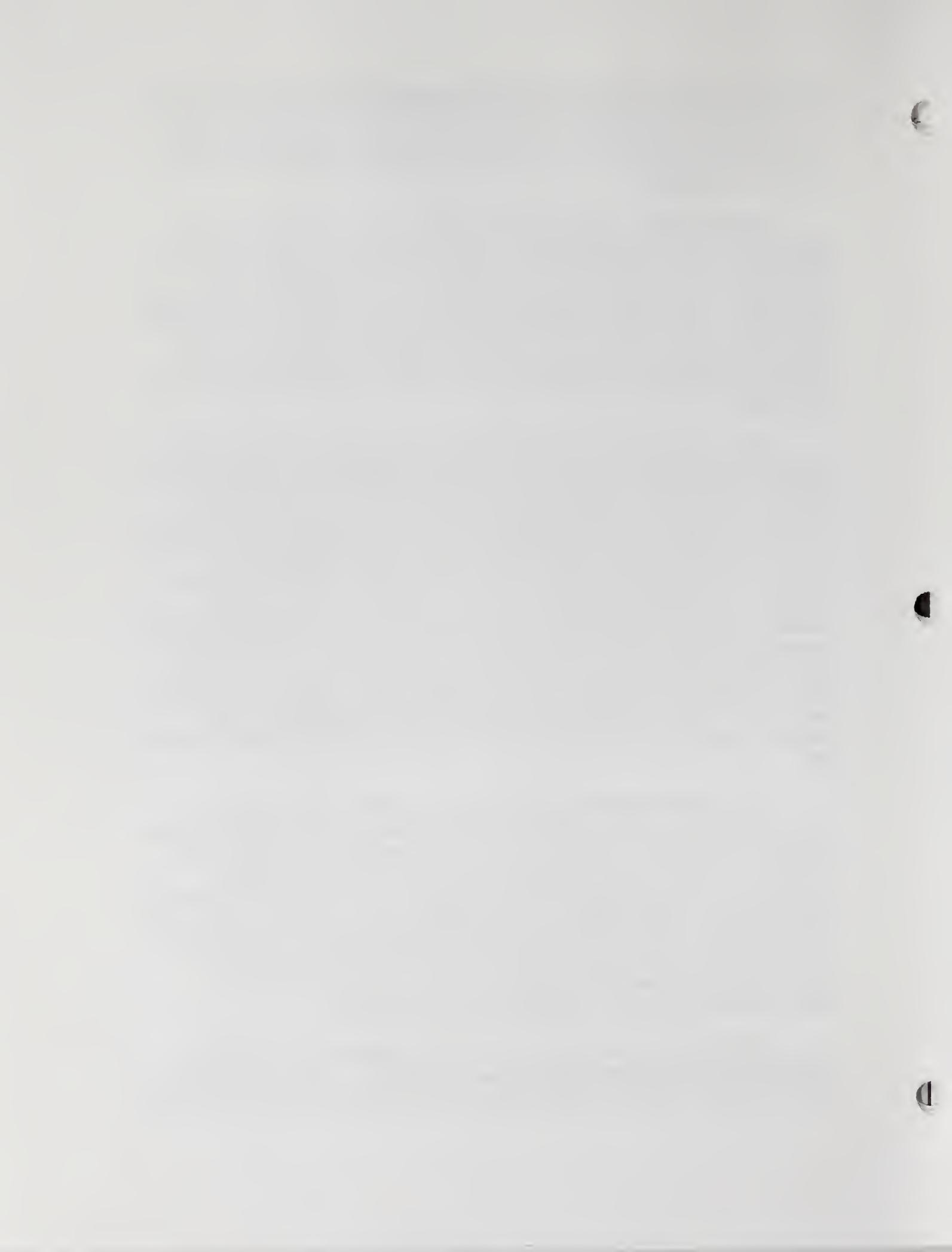
organization, the Project will have ready-made leadership and members to divide the work load and spread the message to "Ban the Burn". Members of such a pre-established group should also demonstrate a strong commitment to bettering the community, a concern for its youth, and a successful working relationship with the town residents.

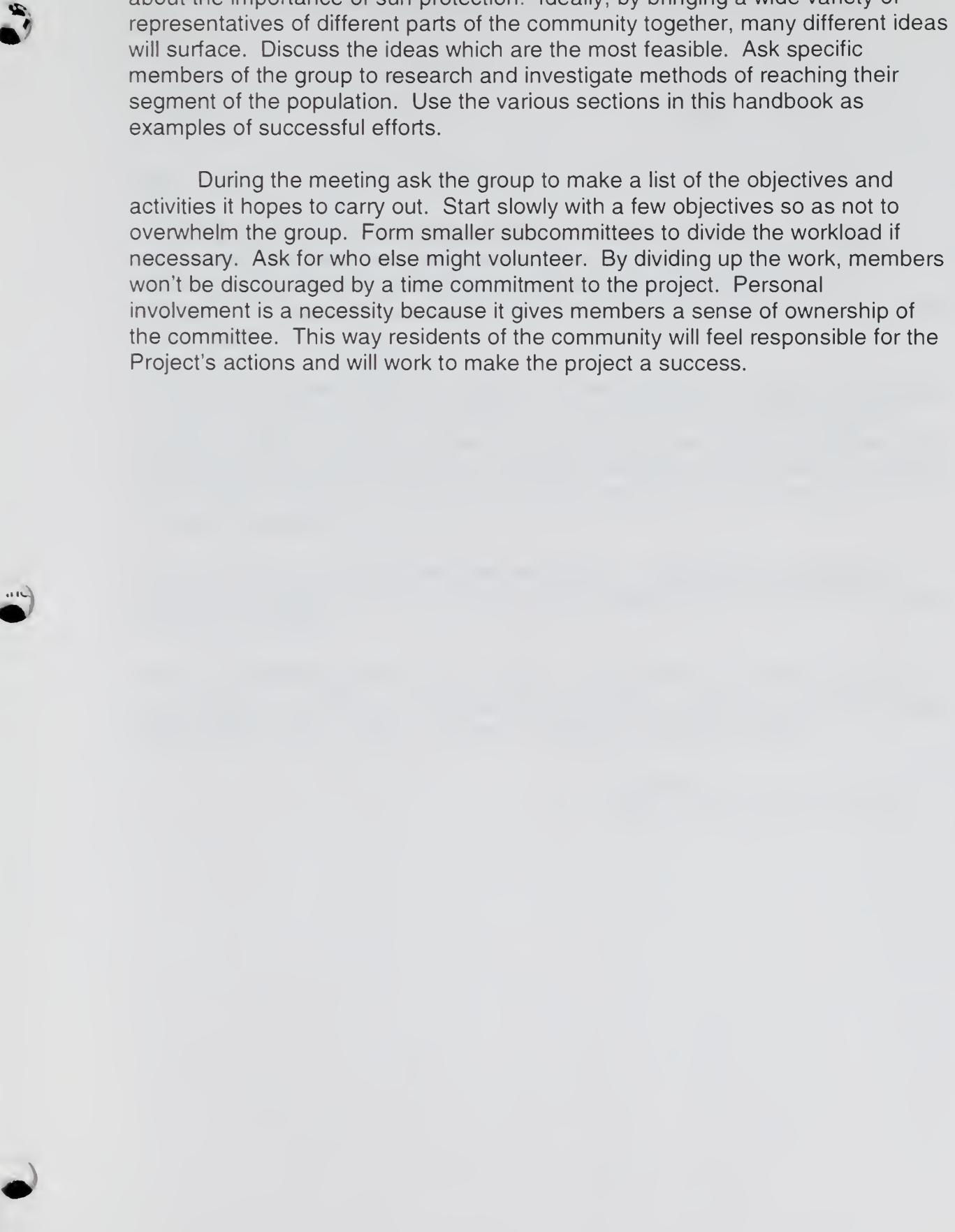
Another method of starting the Safe Skin Project is founding your own committee. Recruit representatives from other committees, organizations, and departments in order to assure representation from a cross-section of the community. It is most important to include parents in the committee. This will be helpful later on when reaching different segments of the community. Ask public figures to serve as leaders and role models. Gaining their support will draw attention and interest to your program. Contact your local American Cancer Society and inform its staff about the project. Ask for a representative to join the committee.

Select a date, time, and place for your first meeting. Send out a flyer describing the program and follow it with a personalized letter or call to invite key people. Notify the local newspaper and cable television channel about the project, including the time and place of the meeting. Ask the local newspaper to print an article about skin cancer with the notice of the meeting (see the "Media" section). Ask clubs to include information about the Ban the Burn Project meeting in their newsletters. Make sure the notices are mailed out a month in advance. It is helpful to make reminder phone calls a few days before the meeting. Talking to people one-on-one or on the telephone helps personalize the project and will gain more of a response than a flyer alone. It is also helpful to use a facilitator at the first meeting so you can take part in the conversation. Select a time for the meeting that is convenient for most. Usually early evening works well. Find a comfortable meeting place with the prospect of using it monthly: hospital resource center, church hall, library, recreation center, or town hall.

At the first meeting explain to the group the history of the project, its success and the importance of creating a Safe Skin town. A brief informational session on skin cancer should be given. (Use the overheads provided in this handbook.) Try to include statistics from your area. Melanoma rates are available from the Department of Public Health's Massachusetts Cancer Registry 617-624-5645. Provide literature and the opportunity for questions. (Materials in the inside cover may be purchased from the various organizations listed in the materials section or use the camera ready copies included in this manual. Copies of the tip sheets can also be ordered free of charge from the Massachusetts Department of Public Health 617-624-5070.)

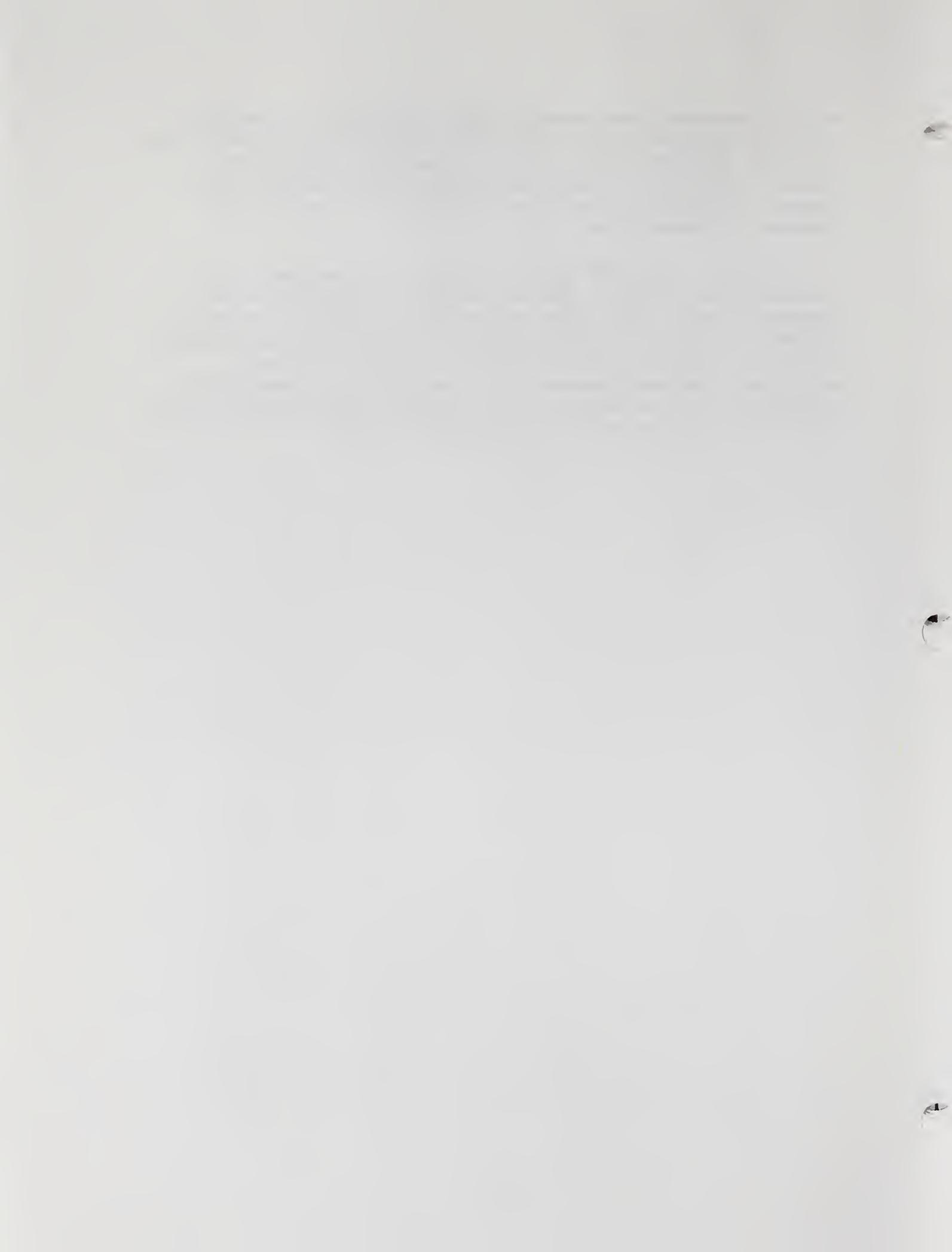
Ask attendees to discuss what they want to happen in their town and establish objectives to ensure the success of the project. Ask for the group's input and ideas on how to educate parents, caregivers, and children in the town





about the importance of sun protection. Ideally, by bringing a wide variety of representatives of different parts of the community together, many different ideas will surface. Discuss the ideas which are the most feasible. Ask specific members of the group to research and investigate methods of reaching their segment of the population. Use the various sections in this handbook as examples of successful efforts.

During the meeting ask the group to make a list of the objectives and activities it hopes to carry out. Start slowly with a few objectives so as not to overwhelm the group. Form smaller subcommittees to divide the workload if necessary. Ask for who else might volunteer. By dividing up the work, members won't be discouraged by a time commitment to the project. Personal involvement is a necessity because it gives members a sense of ownership of the committee. This way residents of the community will feel responsible for the Project's actions and will work to make the project a success.



## Sample Invitation to the First Meeting of the Safe Skin Committee

Date

Dear \_\_\_\_\_,

I am pleased to announce the launching of the Safe Skin Project in town. The project's goal is to reduce the rate of skin cancer in town by reaching the parents and caregivers of children under the age of 13 with messages that heighten awareness of the need to protect children from the sun's harmful rays.

We hope to educate children and parents in the community through the schools, recreation department, sports teams, camps, the media, and word of mouth. Specific projects and target audiences will be determined by the committee. The project has potential for tremendous results in preventing sunburns and reducing the risk of skin cancer in our town and others through the involvement of community residents.

Please join us for our first committee meeting at time, date, and place. During the meeting we will discuss ideas for implementing the Safe Skin Project throughout the town.

We look forward to seeing you on date. We need your advice, especially during these initial steps. If you have any questions or comments please contact health officer at the town Board of Health at phone number.

Sincerely,  
(project sponsor/coordinator)



## Sample Agenda for the 1st Committee Meeting

Find volunteers (preferably well known community leaders) to help with introductions, opening remarks, etc.

Agenda  
(town) Safe Skin Advisory Committee  
Date

Welcome and Introductions	Project sponsor/ Coordinator
Opening Remarks	Selectman or other public figure
Program Overview and Description:	Project sponsor/ Coordinator
Why and What are We Doing?	Overhead presentation
Developing a Community Plan	Open discussion



## About Skin Cancer

- Skin cancer is the most common of all cancers.
- One in every six Americans develops skin cancer at some point in life.
- Sun exposure causes at least 90% of all skin cancers.
- Most of a person's lifetime sun exposure occurs before the age of 18.
- Skin cancer is almost completely curable when treated in its earliest stages.
- **The good news is that almost all skin cancers are preventable by practicing Sun Safety throughout childhood!**

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## For More Information

Massachusetts Department of Public Health  
Bureau of Family and Community Health  
617-624-5448



The Safe Skin Project  
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## **Safe Sun Tips from SunSpot the Do-Right Dog**

**S**hort shadow. Seek shade! Teach children to go into the shade between 10 a.m. and 3 p.m. – peak sunlight hours.

**A**pply a SPF 15 (or higher) sunscreen that blocks both UVB and UVA rays whenever your child spends time outdoors. This includes soccer camp, biking, picnicking and the beach! Be sure to apply sunscreen liberally and evenly to all exposed skin and reapply at least every two hours.

**F**un in the sun needs to be limited. Limit your child's time in the sun during hot, sunny days.

**E**very child needs to cover up with wide-brimmed hats and shirts.

**S**unscreen should not be used on babies less than six months old. Their ultra-sensitive skin requires they stay out of the sun entirely.

**U**nderstand that sand, water, cement and snow can reflect as much as half the sun's rays onto your children's skin even if they are in the shade.

**N**o tan is a healthy tan. A tan is a sign of injured skin from the sun's damaging rays – even if your child doesn't burn first.

**Teach your child sun protection habits that  
will last a lifetime!**



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## Media

The local newspaper is an effective way to publicize the town's Safe Skin Project. Articles about the progress of the program and different effects of the sun can supplement the health education articles relating to skin cancer (see the sample articles at the end of this section).

The following is a list of programs related to the Safe Skin Project that can provide interesting stories for the media:

- Schools
- Recognition of active members of the committee
- Preschools
- UV index information
- Ozone layer information
- Sunscreen information
- Camps
- Youth sports teams
- Beach department
- Town events

Check with radio stations in the area to find out their policies on public service announcements. Create your own message (see the example at the end of this section) or check with the American Academy of Dermatology (847-330-0230) for its public service announcements. The Safe Skin Project can also be a topic for radio talk shows. If there is a college radio station nearby, it might be able to devote time to your message.

Local cable television stations should also be contacted. The station may broadcast community talk shows and other programs that can include your Safe Skin message.

May is Melanoma/Skin Cancer Detection and Prevention Month. It begins with Melanoma Monday, a day dedicated to free skin screenings and promoting self exams. The screenings continue throughout the month. Bring Melanoma Monday to your program. Ask dermatologists to donate their time to screenings throughout the month. Publish a Melanoma Monday newspaper article and continue with skin cancer awareness articles throughout the month. Contact your local American Cancer Society (800-ACS-2345) for more information on Melanoma Monday.

*Some of the articles on the following pages were based on those published in The Falmouth Enterprise highlighting the town's Safe Skin Program. They were written by Mark Liska, MD. Falmouth dermatologist.*



## Sample Press Releases

(Your Name)  
(daytime phone number)

May is Melanoma/ Skin Cancer Detection and Prevention Month. The (name of program) is urging everyone to begin the month on Melanoma Monday by examining your skin for any suspicious spots or marks. Since melanoma and other skin cancers are almost 100 percent curable if caught early, regular self-examination can save your life.

"Melanoma is the deadliest form of skin cancer," says (name of doctor, project coordinator, or health agent). "Check moles and spots on the skin for melanoma by using the ABCD rule: Asymmetry, Border irregularity, Color varied throughout, and Diameter larger than a pencil eraser," continued (name of doctor, project coordinator, or health agent).

Self skin exams should be conducted once a month to detect changes in the skin. "You know your skin better than anyone, therefore by conducting self exams you can observe any minor changes. The early you seek medical attention, the better the chances of survival," stated (name of doctor, project coordinator, or health agent).

"There is hope for our children," says (name of project coordinator). "Sunburns prevented early in life can lead to the prevention of all skin cancers. Avoid the sun during peak hours, between 10AM and 4PM, use sunscreen of SPF 15 or higher, wear hats and protective clothing, and try to hold outdoor activities in the shade," continued (name of project coordinator). These are



a few of the lessons the (name of program) is teaching to children in (town) through (the schools, recreation department, child care centers, etc.).

Sun damage occurs over time. It is better late than never to start preventing sunburns. Set a good example for your children, start safe sun habits. Prevention and early detection can save your life. Celebrate Melanoma Monday with a skin exam.

Self exams should be done once a month with the help of a mirror

1. Exam body front and back in a mirror.
2. Turn to the left and right side with arms raised.
3. Look at forearms, upper arms, underarms, hands, and palms.
4. Examine backs of legs, feet, between toes, and soles of feet.
5. Examine the back of the neck and scalp with a mirror.
6. Part hair and examine scalp.
7. Check back and buttocks with mirror.

# # #



1      (Your Name)  
(daytime phone number)

The (name of program) arrives in (town). Due to the overwhelming rise in the incidence of skin cancer, (name of group or organization) is organizing a local working group to promote sun safety. Residents of the community are asked to become members of committee to educate the children and caregivers of (town) in safe sun practices.

By targeting parents of children from birth to age 13, the project leaders hope to make safe sun strategies as routine for kinds as brushing their teeth or wearing a bicycle helmet. The project's goal is not to scare people out of the sun, but to teach them how enjoy the sun safely.

The (name of program) hopes to teach children the ABC'S of sun protection: A -- stay **A**way from the sun during peak hours of 10AM and 4PM, B -- **B**lock the sun with sunscreen, C -- **C**over up with long-sleeve shirts, hats, and sunglasses, and S -- seek **S**hade when outdoors. The effects of a sunburn in childhood can lead to skin cancer later in life. By following these rules the project hopes to "ban the burn" and protect (town) kids from skin cancer later in life. The (name of program) first meeting will be held on (when) at (time). For more information call (name and phone number or organizer). Remember, thinking a deep tan looks healthy is a hard habit for adults to break, but easier when we think of the damage sunburn can do to our children's skin.

# # #



(Your Name)  
(daytime phone number)

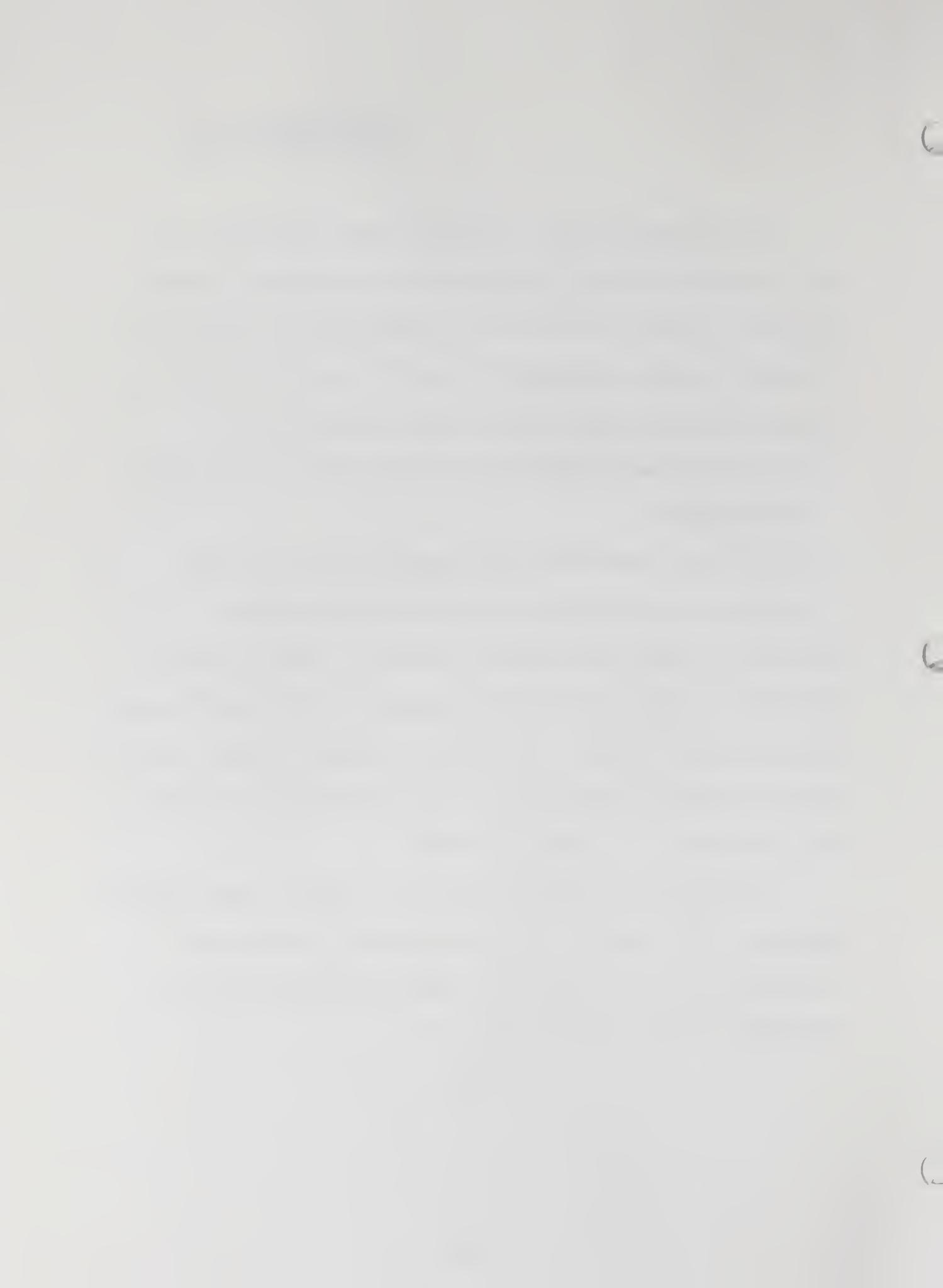
Looking our best is important for all of us. When we look good we feel good. Unfortunately many of us, especially teenagers, believe we look better with a tan. The bad news is that this way of thinking may cause one in five of us to develop skin cancer at some point in our life. The good news is that the vast majority is entirely preventable. Here are some facts you should know:

- There will be more skin cancers diagnosed this year than all other types of cancer combined.
- There is a 6 to 12 month delay in the diagnosis of most skin cancers.
- Someone dies from skin cancer every hour in the United States.

More than 90 percent of skin cancers are caused by overexposure to the sun and, therefore, are preventable. This goes for “photo-aging” of the skin as well; wrinkles, age spots, thinning of the skin, and easy bruising. Compare the skin of your face or forearm (overexposed skin) to that of your stomach or backside (less exposed skin). Do you see the difference?

There is an educational program underway in (town) called (name of program). This group urges you to share your bottle of sunscreen with someone who forgot to bring his or hers to the beach, playground, ball field, swim lesson, or to the community garden.

# # #



(Your Name)  
(daytime phone number)

Bronze and beautiful. This is the way many in the baby boomer generation was brought up to view fashion, fashion, beauty, and good health. Pale skin and parasols were out and "the healthy tan" was in -- but everything comes with a price.

As you know most skin cancers are caused by overexposure to the sun. Few people recognize that 90% of what we consider aging of the skin is also caused by the sun. This "photo-aging" includes changes such as wrinkling, "age spots/liver spots (these are actually sun induced freckle-like changes)", a thinning of the skin which leads to prominence of blood vessels and chronic redness, easy bruising, and skin fragility. Gravity also plays a role in the sagging of our skin but this is accentuated by loss of elastic tissue from sun damage.

Smoking also promotes sallow coloring of the skin as well as increased wrinkling, particularly around the mouth.

The (name of program) hopes to put an end to this attitude of a healthy tan by teaching our children to protect themselves from the harmful, skin damaging rays of the sun. Sunburns during childhood contribute to skin cancer and aging effects later in life. (name of program) teaches children sun safety lessons.

Acute over exposure to the sun can cause a serious burn. For infants this can be life threatening due to their relatively small surface area and inability to radiate excess heat. In both children and adults, it is not only painful but can be



a health risk due to blistering and onset of secondary infection. In addition, and most importantly, it increases ones risk of developing malignant melanoma.

Immediate first aid should include cooling the skin with cool baths and compresses and the use of aspirin or aspirin-like anti-inflammatory products such as ibuprofen to help relieve immediate inflammation. Check with your pediatrician before giving any medications to children. Topical steroids or even systemic steroids are at times helpful. Acute damage may be followed by a residual freckling, and many adults can recall at least one bad burn that left their chest, back, or face permanently freckled.

Unfortunately, skin damage from time spent in the sun accumulates and may not show its effects for decades. The cosmetic changes we begin to see in our 20's, 30's, and 40's are the reminders of constant build-up of damage. Eighty percent of our lifetime sun exposure is achieved by age 18, during the years when most of us practice our tan seeking behavior.

It's ironic that our society places such a premium on the appearance of youth yet so many of our habits, particularly sun seeking behavior, serve to destroy it. Record numbers of people are seeking cosmetic surgery, laser resurfacing treatments, using Retin-A and alpha hydroxy acid based products in attempts to undo the ravages of sun exposure. Wouldn't it make more sense to prevent it in the first place?

# # #



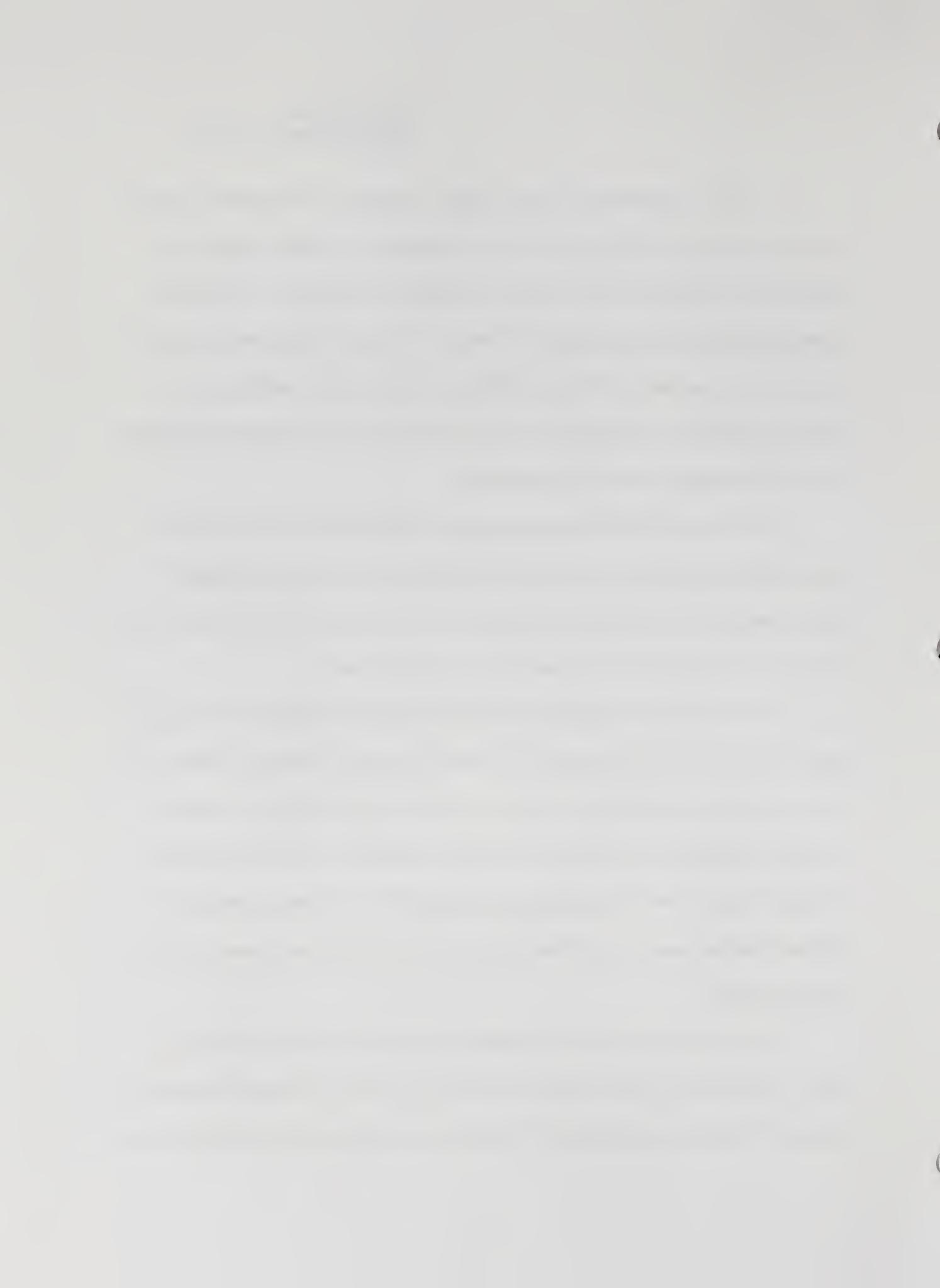
(Your Name)  
(daytime phone number)

It is June. The temperature has finally crept above 70 degrees and there is more yard work to do than you have time (or energy) for, even though you have been at it for the past two months. Summer is finally here. With all the other activities which go along with summer, for many it is a time to think about a new bottle of sunscreen, protective clothing, and all the other annoying but extremely beneficial suggestions we have all read so much about in the past few years for keeping us safe from sun damage.

If you are just pulling out your sunblock and hat along with your beach umbrella and volleyball net, you have missed the point. Many of us equate warmer weather with increasing intensity of the sun's rays. The truth is you have already experienced half of the sun exposure for the year.

You may have been wearing a jacket and long pants while cleaning your yard, turning over your flower beds, or primping your lawn since early April. But many don't give much thought to sun exposure because it has been so cold. The sun's ultraviolet rays were just as strong on April 20 -- two months before the beginning of summer, as they are on August 20 -- two months after the summer solstice, even though there may be a 30 to 40 degree difference in the air temperature.

It is true that with the warmer weather we all spend more time out of doors. Unfortunately, many people still start their spring or summer with one or two "good" sunburns to "get a base"; they think (wrongly) that this will help them



tolerate further sun exposure with less discomfort. What many don't realize is that sun damage accumulates like grains of sand through an hourglass. Every minute counts, building on the last and adding to one's lifetime accumulation that counts for up to 90 percent of what we consider aging of the skin and certainly increasing our risk of skin cancer.

Many don't realize that these intense short bursts of exposure "to get our base" put us at greater risk for malignant melanoma, the least common, but by far the most serious and potentially deadly, form of skin cancer.

Three severe burns (painful burns that peel or cause water blisters) anytime in our life increases our risk of developing melanoma by as much as eight-fold. Many of us had this type of exposure during childhood and adolescence, which is the time when it is believed we are most susceptible to the type of damage which is locked away but may come back to haunt us later.

It is unfortunate that we can do everything we have already read and heard about in practicing good sun protection almost all the time, but there are those few instances when we are careless, either with ourselves or with our children, we do irreparable damage which is locked away and which we can't get back.

Even though many of us have had significant exposures in the past before we knew better, it is never too late to get on the band wagon and be sun smart. Malignant melanoma is the nation's fastest growing cancer among whites. In the last decade, the incidence rate has doubled. Although many associate risk with people with very fair skin -- blondes or red heads with blue or green eyes -- we



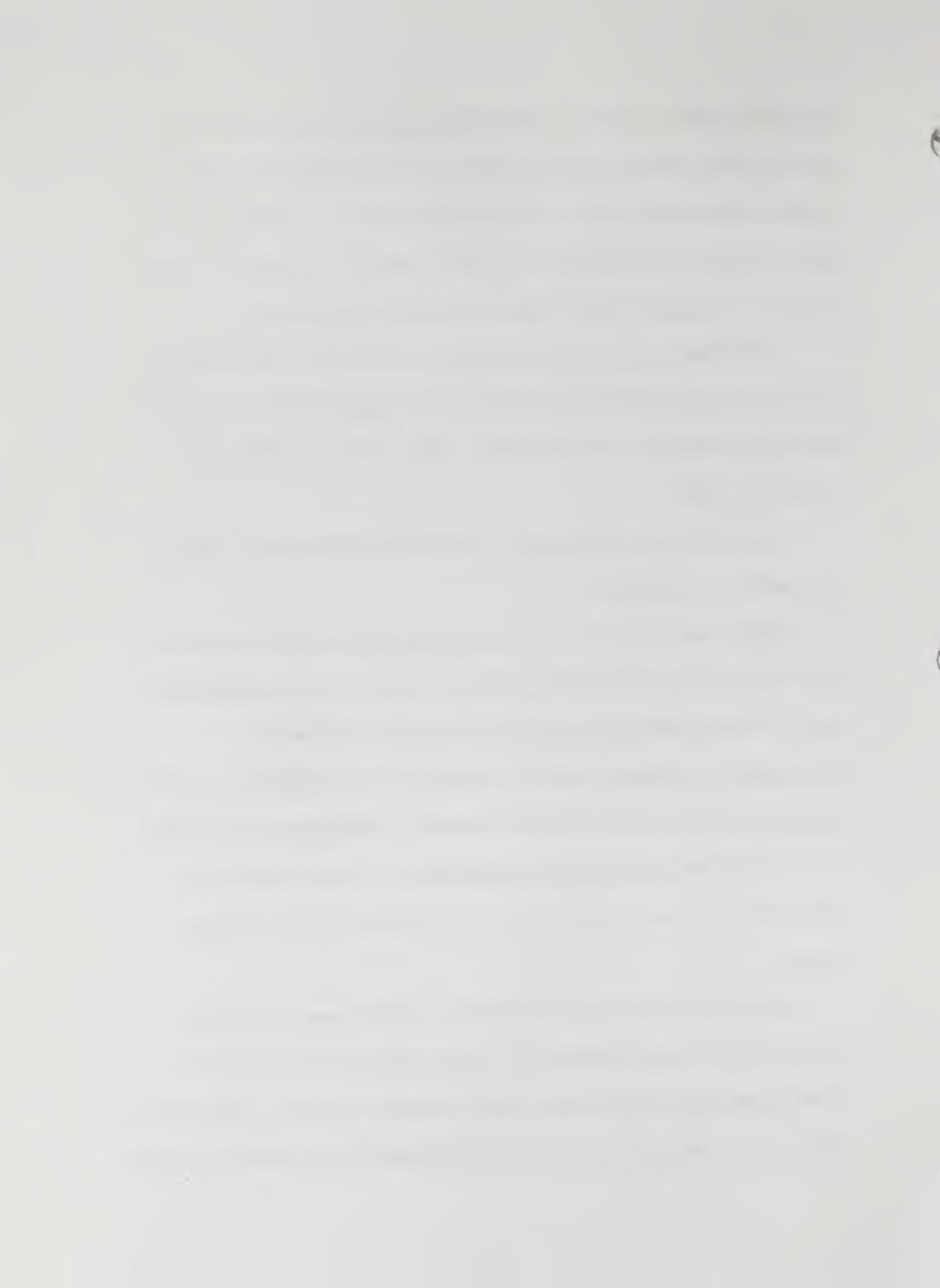
are all at risk. Melanoma attacks dark skinned people as well as light skinned individuals, only with somewhat less frequency. The development of melanoma is greatly influenced by our sun exposure though we are not exactly sure how. Blistering or painful burns before the age of 21 greatly increase our risk though this type of sun exposure anytime during life causes skin damage.

Researchers are very concerned about melanoma's rapidly increasing incidence. By the year 2000 it is estimated that one light skinned American in 90 will develop melanoma, and an estimated 7,300 Americans will die from melanoma in 1998.

It can affect anyone at any age. It is already the number one cancer in young women under age 35.

Unlike breast and prostate cancer, melanoma has a known potential cause -- too much unprotected time in the sun. By reducing our unprotected time in the sun, particularly avoiding serious burns in childhood and adolescence, it has been estimated that we may be able to reduce our risk of developing melanoma by as much as 80 percent. Unlike breast and prostate cancer, which lurk inside the body, most melanoma is clearly visible on the surface of the skin and easily removed at an early stage when it is entirely curable.

By now, most of us have seen articles or advertisements that show pictures of what melanoma looks like -- asymmetrical spots on the skin with blurred borders and different colors (often dark brown or black) -- which change in size. Moles that turn black, bleed, or are persistently itchy or tender should be



checks. It is important to note however, that only one third of melanomas develop in pre-existing moles, which means that two thirds develop on what was previously normal, uninvolved skin. The message is clear. A careful periodic self-examination looking for signs or change can be lifesaving and is a simple thing to do.

Unfortunately there are numerous pigmented growths that occur on our skin, particularly as we age, which can mimic melanoma, and only a trained eye can tell the difference. Any unfamiliar or changing growth should be checked by a trained professional.

This is certainly an instance where an ounce of prevention can prevent the need for a pound of cure. Wear your hat, sunblock, and sun protective clothing. Avoid sunburns and don't use artificial tanning salons, as the exposure from this is much more damaging than the sun, especially to our immune system which defends us from these cancers. This is a message from (name of program), the program designed to help teach good sun habits to our children, which they will hopefully learn early and practice for a lifetime. Set a good example. Parents are the best teachers.

# # #



(Your Name)  
(daytime phone number)

Did you know that looks can kill? Many moles and beauty marks have the potential to become skin cancer after years of accumulated sun damage. Don't let your looks kill, cover up, wear a hat, use sunscreen and watch any mole for signs of changing.

"Protect (town) kids! Always make sure your child uses sunscreen when outdoors, wears a hat, and seeks shade especially during the hours of 10AM and 4PM, says," (name and title of person).

Did you know that 3 severe sunburns before the age of 20 increases your risk of melanoma, the deadliest form of skin cancer, by 5 times? Start now. Protect your children from sunburns with sunscreen, hats, and shade. Don't let your child be a skin cancer statistic.

Do you know the ABC'S of sun safety? Stay **Away** from the sun during the peak hours of 10AM and 4PM, **Block** the sun with sunscreen, **Cover** up with hats, sunglasses, and long-sleeve shirts, and **Seek** shade when outdoors..

Summer is here! Time to hit the beach for a healthy glow, right? Wrong! No tan is a healthy tan. A tan is actually damaged skin that can lead to potential problems later in life -- skin cancer! Before going to the beach or other outdoor activities, grab your sunscreen, hat, sunglasses, shirt, and umbrella. Remember, have fun but be sun safe!!

# # #



## Radio Public Service Announcements

*Did you know that looks can kill? Many moles and beauty marks have the potential to become skin cancer after years of accumulated sun damage. Don't let your looks kill, cover up, wear a hat, use sunscreen and watch any mole for signs of changing.*

*This message is brought by the (name of program).*

*Protect (town) kids! Always make sure your child uses sunscreen when outdoors, wears a hat, and seeks shade especially during the hours of 10AM and 4PM.*

*This message is brought by the (name of program).*

*Did you know that 3 severe sunburns before the age of 20 increases your risk of melanoma, the deadliest form of skin cancer, by 5 times? Start now. Protect your children from sunburns with sunscreen, hats, and shade. Don't let your child be a skin cancer statistic.*

*This message is brought by the (name of program).*



*Do you know the ABC'S of sun safety? Stay **A**way from the sun during the peak hours of 10AM and 4PM, **B**lock the sun with sunscreen, **C**over up with hats, sunglasses, and long-sleeve shirts, and **S**eek shade when outdoors*

*This message is brought by the (name of program).*

*Summer is here! Time to hit the beach for a healthy glow, right? Wrong! No tan is a healthy tan. A tan is actually damaged skin that can lead to potential problems later in life -- skin cancer! Before going to the beach or other outdoor activities, grab your sunscreen, hat, sunglasses, shirt, and umbrella. Remember, have fun but be sun safe!!*

*This message is brought by the (name of program).*



## Libraries and Children's Centers

Find places which attract children to distribute tip sheets and display materials. Talk to library representatives and other centers that hold children's activities. (Hopefully they are already members of the committee.) Request children's books relating to sun protection be read. If there is a story reading hour, ask that books about sun protection be made available. (See the Schools section for a list of books.) Also, ask for space to create a Sun Skin bulletin board in the children's area. In addition, suggest that the staff create their own Safe Skin activities.

The American Academy of Dermatology 847-330-0230 has created a book mark "Kids! Use your ABC's" that can be distributed at the library along with the Safe Skin tip sheets. As a special library or committee contest, provide plain paper and have children make book marks depicting sun protection activities.



# Schools

## Elementary Schools

It is very important that members of the school department become involved in the project. The best way to reach children in your community is through the schools. There are many different ways to reach children and their parents and caregivers through the school system. Discuss the ways which the community wants to teach their children about sun protection. Contact the administration, nurses, health educators, teachers, and principals to discuss ways to implement Safe Skin activities and education into the school calendar and curriculum.

Different aspects of skin cancer, protection, and prevention can be included in various school subjects such as science, health, art, and social studies. Sunscreen use must be addressed during outdoor activities such as field days and field trips. Begin to develop lines of communication early in the school year to plan events and programs for the spring. Be aware that it might take time to get the program started but it is important to discuss sun protection before summer vacation begins.

Explain to the superintendent of schools, school health advisory committee, and/or members of the school committee, the Safe Skin Project's desire to be integrated into the school system. Once you have obtained permission to start, begin talking to principals and teachers about different ways to involve the students in Safe Skin activities. School nurses might also have creative ideas. Network as much as possible through the committee to find people involved with the school system. Next, meet with the parent teacher group/organization leaders to discuss options for integrating Safe Skin education in the schools. This should all happen at least six months prior to the time you would like to start activities.

Encourage students to be creative through art classes. They can create their own Safe Skin posters to hang around the school.

If there are parent nights in the schools, ask volunteers to set up an information booth to make parents aware of the Safe Skin Project's involvement with the schools.

Invite a dermatologist or dermatology nurse from the community to come to speak to children about playing safely in the sun.

Include Safe Skin tips in parent-teacher newsletters and notices sent to parents. Remind them of upcoming activities when their children will need sunscreen, like field trips and field days, for example. Discuss the possibility of



sunscreen applications during the school day. *Permission slips must be filled out in order for teachers to apply sunscreen to students.*

Work on suggestions for teachers to teach Safe Skin units relative to their respective subjects- science, social studies, health, etc. The American Cancer Society has developed the *Slip, Slop, Slap* campaign with curricula for preschool through grade 12. It is divided into preschool, kindergarten through 3rd grade, 4th through 6 grade, and 7th to 12th grade. Each curriculum focuses on age appropriate education on sun safety and includes practical classroom activities. Project S.A.F.E.T.Y. at the MD. Anderson Cancer Center in Houston, Texas has developed a science curriculum for high school and middle school students that includes slides and a video among its teaching materials.

The American Academy of Dermatology has created the *Block the Sun, Not the Fun!* Program available on the Internet. It is a Family Sun Guide that teaches children and parents the dangers of the sun and the ways to protect themselves from sun damage while having fun in the sun. It includes tips from dermatologists and puzzles and quizzes for children. See the back of the handbook for the teacher's guide and parent's guide.

The Environmental Protection Agency has also created the *Sunwise School Program* for children. It is an environmental and public health campaign to help protect young children from overexposure to the sun. It includes educational lessons, behavioral changes, organizational and policy changes, and community outreach programs.

## Activities

### Art

- Create Safe Skin posters. Have a contest with judges and prizes. Laminate the best posters to hang around the facility.
- Create comic strips dealing with different components of sun protection
- Design hats and sun protective clothing

### Science

- Discuss the thinning of the ozone
- Focus on the sun's effects on plants, animals, and humans
- Build structures providing shade

### Drama-

- Make up sun protection lyrics to existing songs
- Perform skits about sun protection -- See the Safe Sun play at the end of this section
- Hold a parade with the child wearing their safe sun clothing

See the Preschool and Child Care section for more activities which can be modified for elementary school children.



## Resources:

American Cancer Society  
30 Speen Street  
Framingham, MA 01701-1800  
800-ACS-2345  
[www.cancer.org](http://www.cancer.org)

*Block the Sun, Not the Fun!*  
American Academy of Dermatology  
930 North Meacham Road  
Schaumburg, IL 60173-4965  
847-330-0230  
[www.aad.org/btsntf/index.html](http://www.aad.org/btsntf/index.html).

Easy as A B C Sun Safety Program: An educational program for child care centers and child care givers. Susan Boiko, MD. Fellow, American Academy of Pediatrics Fellow, American Academy of Dermatology. 760-599-2236

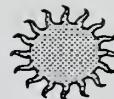
Project S.A.F.E.T.Y. module  
Science curriculum with *Tanlines* video  
MD Anderson Cancer Center.  
1515 Holcombe Boulevard, Box 240  
Houston, TX 77030  
713-745-1205  
[www.mdacc.tmc.edu](http://www.mdacc.tmc.edu)

*Sunwise School Program*  
U.S. EPA  
401 M Street SW (MC 6205-J)  
Washington, D.C. 20460  
202-564-9096  
[www.epa.gov/sunwise](http://www.epa.gov/sunwise)





## Sunwise School Program U.S. Environmental Protection Agency



**T**he Sunwise School Program is a comprehensive environmental and public health program to help protect young children from overexposure to the sun.

The ozone layer is the earth's natural shield against harmful ultraviolet (UV) radiation. As ozone in the stratosphere is destroyed, more of the sun's rays reach the surface of the earth, contributing to health problems including skin cancer, eye damage, and suppression of the immune system.

According to the American Academy of Dermatology, skin cancer is an "undeclared epidemic," with a 1,800% increase in the incidence of malignant melanoma, the most deadly form of skin cancer, since the 1930s. Most people get 80% of their lifetime sun exposure by age 18.

Chronic eye exposure to UV radiation will increase the incidence of cataracts as well as other kinds of damage which can affect vision. Repeated exposure to UV radiation may also suppress the immune system and cause photoaging of the skin.

The goal of the Sunwise School Program is to educate school children in grades K-6 and their caregivers about the health risks posed by ultraviolet (UV) radiation so that they can make informed decisions that will lower their risk of overexposure to the sun. In the long term, the Sunwise School Program will positively impact public health.

Sunwise partnership schools will participate in activities that will foster children's awareness of health risks from UV radiation and will teach simple steps to avoid overexposure. These activities include: daily reporting of the UV Index; educational lessons in the areas of stratospheric ozone, UV radiation, and health effects of overexposure (e.g., via interactive games, science experiments, videos, etc.); behavior changes (e.g., "Wear Sunglasses Day"); organizational and

**THE UV INDEX:** In 1994, the U.S. Environmental Protection Agency and the National Weather Service (NWS) introduced the UV Index as a daily report on the UV radiation levels people may experience. The Index predicts UV levels on a 0-10+ scale, where 0 indicates a minimal risk of overexposure, and 10+ means a high risk.



The UV Index is included in daily reports of meteorological conditions provided nationwide by the NWS, and is also available daily to the public through television, newspapers, and the Internet.

policy changes (e.g., planting shade trees); and community outreach (e.g., inviting doctors and other environmental and health professionals to speak about sun overexposure).

Finally, schools will share information about their activities and successes. By sharing experiences, program participants will help to create a better understanding of the environment and successful sun protection teaching.

To ensure success of the Sunwise School program, EPA will work with a range of partners within EPA, at other federal agencies, environmental and educational organizations, and in schools and communities nationwide.

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**F**or information, contact: Maura Cantor, Director, Sunwise School Program. Address: U.S. EPA, 401 M Street SW, (MC 6205-J), Washington, D.C. 20460. Phone: (202) 564-9096. Stratospheric Protection Hotline: (800) 296-1996. Email: [cantor.maura@epa.gov](mailto:cantor.maura@epa.gov). Or visit our web site at [www.epa.gov/sunwise](http://www.epa.gov/sunwise).



## Preschools and Child Care Centers

Preschools and child care centers can effectively reach parents and children with some simple Safe Skin rules. A requirement that all children have sunscreen already applied when they arrive and reapplying after lunch perpetuates habitual sunscreen use. Adopt a sun safety policy (see the sample at the end of this section) and distribute it to parents.

To begin a sun protection program first set the goals you wish to achieve: (1) to prevent sunburned children and caregivers, (2) to educate children, parents, and caregivers about sun precautions, (3) to create a Safe Skin child care setting, and (4) to prepare a written child care policy on sun safety. Notify teachers and staff of plans to create a Safe Sun program and ask for their assistance. Review any existing sun protection policies and state regulations on the use of sunscreen in child care centers and preschools as it is classified as an over the counter preventative medication. Send a letter home to parents or caregivers with a sunscreen permission form included.

Permission slips must be completed in order for sunscreen to be applied by the daycare or preschool provider. Child care centers and preschools can ask children to bring their own bottle of sunscreen with them. The organization must decide, however, what steps to take if a child does not have sunscreen. Some suggestions are: (1) have extra sunblock to apply to those that can't afford it or forget or (2) keep the child indoors during outside play time. Whichever option you choose should be added to the permission form. The permission slip must also include information on sunscreen applications. The staff and teachers must wash their hands after each child's sunscreen application or wear gloves, changing them for each child. This should be stated in the policy and include space on permission forms for allergies to latex or vinyl. A sample permission form is included at the end of this section.

Once permission forms are collected, create rosters for each class stating which children receive sunscreen, what kind, and what measure to take when their sunscreen is not available. Train staff on basic skin protection methods and sunscreen application. (See training section.) Create a sunscreen application schedule. Make it a fun activity the children enjoy. Require children to have sunscreen already applied when they arrive in the morning or apply it at the center 30 minutes before going outside. Apply every few hours. Consider maintaining the regimen even on cloudy days, the sun may come out in the afternoon. On days when the children spend more time outside, schedule more sunscreen applications while allowing for time in the shade.

Require the use of protective clothing for children and staff; hats and shirts made of light weight cotton, dense weave, light color materials. Consider selling Aussie-style hats and long-sleeve shirts with the center's logo at cost or



use the profits to buy sunscreen. Decide which Safe Skin lessons to include in your curriculum and send a calendar home including dates of sun safety lessons.

Before starting the Safe Skin unit or lessons make your facility sun safe. Mentally and physically walk through the center or school in the morning at noon and in the afternoon. Make note of the amounts of shade available at each time of day. Order canopies, umbrellas, tents, and tarps if there is not enough shade. Arrange for trees to be planted around play area. Create covered areas for seated outdoor activities like singing, crafts and meals to take place. Schedule prolonged outdoor activities to take place in the mornings or afternoons, and schedule mandatory shade breaks for 15 minutes per hour especially during peak hours. Schedule water breaks and bathroom breaks on field trips during shade breaks.

A camera ready copy of a tip sheet for parents of young children is included at the end of this section. Call the Massachusetts Department of Public Health (617-624-5070) for copies of this tip sheet free of charge.

### **Games and Activities**

Games and activities help to add to this awareness. As the summer months approach, these activities focus on the strength of the sun and its positive and negative effects. Create a Safe Skin Week and focus on efforts to "Ban the Burn". (Refer to the Training section- Preschool, Child Care Staff.)

1. Discuss good and bad aspects of the sun with the children. Example: the sun warms us, causes things to grow and gives us light but too much of it makes our eyes hurt, can make us sick sometimes, and give us sunburns. Invite the children to add their ideas to the "good" and "bad" lists.
2. Discuss concepts of ABC'S of sun protection: staying away from the sun, blocking the sun, covering up, and seeking shade. Develop a bulletin board about sun safety using pictures made by the children or make collages.
3. With consent from parents, introduce sunscreen to children. Demonstrate its application on yourself. Talk about color, smell, and texture. Explain special places of application: nose, ears, cheeks, shoulders, etc. Explain the importance of sunscreen when outside. Also, use lip blocks, reapplying after eating.
4. Provide hats, shirts, sunglasses, and empty sunscreen bottles in dress up area. Provide dress-up materials for dolls and animals. Ask children to model outfits for various outdoor activities: playing sports, going to the zoo, the beach, the playground. Encourage Safe Skin outfits anytime the children are outside.
5. Create hats out of paper. Have children decorate their hats with Safe Skin pictures and have a parade. This is a good event for parent's night.



6. Demonstrate the strength of the sun by placing a crayon in direct sunlight, one in the shade, and one in the classroom. Ask the children to check on the crayons 2 hours later. Which crayon melted and why? Discuss the strength of the sun's rays in the different areas. Which area is most Sun Safe? Make sure the children understand that this is just a demonstration, they won't melt in the sun!
7. Discuss shade and how it protects from the sun. Identify the differences between shadows and shade. Shadows are made by moving objects, are lighter in color, and are often small. They don't provide a lot of protection. Shade is larger in size and also more dense. It is given by trees, umbrellas, and other large objects. It helps protect us from the sun. Ask children to find areas of shade on the playground and what object makes that shade. Ask them how they feel sitting in the shade as opposed to direct sunlight.
8. Make shade maps with older children. Take the children outside three times on sunny day, 10AM, 12PM, and 3PM. Mark a piece of paper with the time. Ask the children to find shade. Draw the shaded area on the piece of paper. Create a map of shade for the three different times of day. Discuss the best places for playing in the shade. Explain that as the sun moves through the sky the shade moves with it. From the three shade maps find the places where there is never any shade. These are the danger zones. Reinforce the concept that shade provides cool, comfortable protection from the sun's rays.
9. Take children outside and outline their shadows with different colored chalk for each time of the day, 10AM, 12PM, and 3PM. Explain the short shadow rule -- if the shadow is shorter than they are the sun is very strong and they should limit their time outdoors. Compare their shadows at the different times of day. What time of day is best for outdoor activity?
10. Teach children the ABC's of sun protection with the following story and songs by Susan Boiko, MD, found in the *Easy as A B C Sun Safety Protection Program*.



## Easy as A B C Story

It was spring time at the child care center. Birds were singing (move hands to look like bird beaks singing), tiny leaves were growing on bare branches (spread fingers and raise arms), and the air was warm.

It was early in the morning, just after the sun had come up, (rub eyes and stretch arms), and three alphabet letters right in this room were getting ready for the girls and boys. The names of the letters were A (put arms over head, touching palms together), B (hold palms out in front, as if you were blocking something), and C (put hands on head).

"You know," said A (put arms over head), "spring time is here. The sun is smiling down on us from the sky. How wonderful it is to be outside again, playing under the nice, warm, bright sun!"

"But A!" protested the letter B (Hold palms out) "Sometimes the sun is mean! Remember last year when C got a red, red sunburn? She cried!"

C (put hands on head) said, "I know how to tell when the sun is mean! Early in the morning, when the children come to school, their shadows are very, very, long! But, in the middle of the day, their shadows on the play ground are short. Short shadow time is mean sun time. Short shadow time is when the children say their Sun ABCs!"

When the children came into this very room, the letters A, B, and C were ready to talk to the children.

A said, "Today I would like to teach tout the sun ABCs. When you go outside and you shadow is small -- smaller than you are! -- say **my** name.

Say 'A (put arms over head) -- Stay away from the sun.' Ask an adult to help you find shade. Shade is a BIG shadow. Go under a tree! Go into the shade. Stay with me (have children say, putting arms over head): '**A** -- stay away from the sun.'

B said, "when you go outside, and your shadow is small -- smaller than you are! -- say my name.

Say 'B (hold palms out) -- Block the sun!' Ask an adult to help you put sunscreen on your skin to block the sun from burning your skin. Say with me (have children say, holding palms out), '**B** -- Block the sun!"

C said, "when you go outside, and your shadow is small -- smaller than you are! -- say my name.

Say 'C (put hands on head) -- Cover up!' Ask an adult to help you put on a hat, sunglasses, long sleeves, and long pants. Say with me (Have children say, with hands on heads), '**C** -- cover up!"

The children clapped and cheered (clap and cheer) for the clever letters and their story. Now A, B, and C would like to teach you a song! Sing it any time you are playing outside!



### ABC Song

(to the tune of "ABC")

Hint: Sing each line first, then have the children repeat the line. Eventually, they'll learn the entire song without repetitions

A B C D E F G

I won't let the sun burn me!

A means away -some shade I'll find

From the sun I will hide

A B C D E F G

I won't let the sun burn me!

A B C D E F G

I won't let the sun burn me!

B is block- I use sunscreen

Everywhere my skin is seen

A B C D E F G

I won't let the sun burn me!

A B C D E F G

I won't let the sun burn me!

C is cover with a hat

Tee shirt, sunglasses-- just like that!

A B C D E F G

I won't let the sun burn me!



### Sunscreen Song

Hint: Sing it as you apply sunscreen to children to the tune of "So Early in the Morning"

This is the way we save our skin, save our skin, save our skin  
(Action: Show sunscreen bottle)  
This is the way we save our skin  
From sunburn in the morning

This is the way we rub it in, rub it in, rub it in  
(Action: rubbing)  
This is the way we rub it in  
Our sunscreen every morning

Don't forget your nose and chin, ears and toes, on it goes  
(Action: rub named body parts)  
Don't forget your nose and chin  
Our sunscreen every morning



Permission is granted to health, educational or non-profit amateur groups to reproduce and/or perform this play. Others must contact the author.

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Based on a scenario and songs by:  
Susan Boiko, MD, FAAD, FAAP  
513 321-5350  
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### Sun Safety

#### Characters

Lifeguard

Seven Letters A, B, C, D, E, F, G

Four or more Sun Blocker Girls with Dolls

Fashion Consultant

Fashion Show Children

*(Note: Lifeguard and Fashion Consultant may be played by adults}*

*At Rise: Curtains open on stage with children in their various groups seated on benches up stage. A backdrop of bright sun with rays extending in blue sky and a vista of mountains and sea may complete the scene. The group representing the letters wear the same colored jerseys and long pants. Each jersey has an alphabet letter on the front. Sun Blockers wear a different colored, same style jersey and long pants. Each Sun Blocker carries a small bottle of sun lotion and a doll with a bathing suit. Fashion consultant carries a newspaper hat, a broad brimmed hat, and a basket with sunglasses for those in the fashion show. She wears a fancy straw hat with flowers, and a bright patterned long sleeved shirt and pants. Members of the Fashion Show wear colorful jerseys, pants and hats, except for Hatless Child, Child Wearing Baseball Cap and Child in Ski Suit)*

*Music: Introductory chords of "You Are My Sunshine" played as curtain opens, then children sing opening verse of song. Lifeguard, in sweatshirt with "Lifeguard" on front, sweatpants and pith helmet, whistle around neck, enters on final phrase of song, stands center stage)*

Children: You are my sunshine, my only sunshine.

You make me happy, when skies are gray.

You'll never know, Sun, how much I love you,

Please don't take my sunshine away.



Lifeguard: (*Blows whistle. Children sit up, at attention. Lifeguard addresses audience*) Good morning, boys and girls. You all know me. I'm a lifeguard. I watch over you when you go swimming in the pool or in the ocean. But I watch over more than your safety in the water. I watch over your safety in the sun. (*Points to children on stage*) These are my friends who will help me to teach you about sun safety. (*To onstage children*) What kind of things do you enjoy when the sun is shining brightly? (*Speaking parts may be given to children in Fashion Show scene, since most do not have lines in that section of the play*)

First Child: Swimming!

Second Child: Playing ball!

Third Child: Hiking!

Lifeguard: Those are wonderful things to do. But what happens when you stay out in the sun too long?

Fourth Child: You get red and sore. Ouch!

Fifth Child: You get all itchy and you peel. (*Scratches*) Yuck!

Sixth Child: Your skin gets dry and scaly like a lizard. Ugh!

Seventh Child: When you are older, you might even get skin cancer.

All Children: Ooh...

Lifeguard: That's right. (*To the audience*) Too much sun is not much fun. But we can help you get the most from those sunny summer days while protecting yourselves. Let's hear about the ABCs of sun care. (*To Alphabet Letters*) On stage, Letters. (*Blows whistle. Musical reprise of Alphabet Song as the seven letters take places center stage. Lifeguard crosses down right.*)

Music: *Alphabet Song.*

Alphabet Letters: (*In unison*) A, B, C, D, E, F, G  
I won't let the sun burn me.



Letter A: "A" means away, I'll go inside.  
From hot burning rays I'll hide

Letter B: "B" means block out harmful rays.  
Be very careful on hot days.

Both: A, B, C, D, E, F, G  
I won't let the sun burn me

Alphabet Letters: A, B, C, D, E, F, G  
I won't let the sun burn me.

Letter C: "C" means cover with a hat  
Don't forget -- you must do that.

Letter D: Cover skin with gel or lotion,  
When you go in pool or ocean.

Both: A, B, C, D, E, F, G  
I won't let the sun burn me.

Alphabet Letters: A, B, C, D, E, F, G  
I won't let the sun burn me.

Letter E: Long sleeve shirt.

Letter F: Is where it's at

Letter G: Wear some glasses and a hat.

Alphabet Letters: A, B, C, D, E, F, G  
I won't let the sun burn me. (*As music reprises, Alphabet Letters run back to places*)

Lifeguard: Excellent! But there's another way to protect yourselves from the dangerous rays of the sun. Here come the Sun Blockers with their Sun Babies to tell you all about it. (*As music reprises "Here We Go 'Round the Mulberry Bush," Sun Blockers cross to center stage, each carrying a doll clad in a bathing suit and a bottle of sun lotion. Musical chord. All hold up bottles of sun lotion*)



Sun Blockers sing: This is the way we save our skin, save our skin,  
Save our skin.  
This is the way we save our skin,  
From sunburn in the morning.

First Sun Blocker: (*Waving bottle*) This is the way we screen the sun—

Second Sun Blocker: (*Pointing to doll's ears*) Behind the ears—

Third Sun Blocker: (*Pointing to doll's nose and toes*) From nose to toes!

Fourth Sun Blocker: (*Rubbing doll vigorously*) We lather and slather and smear it on.

All Four: The first thing in the morning.

All Sun Blockers: (*Rubbing dolls*) This is the way we rub it in, rub it in,  
Rub it in,  
This is the way we rub it in,  
The first thing in the morning.

Lifeguard: (*To audience*) You all know you must use sun blockers when the sun is shining. But how about cloudy days. Are you safe on cloudy days?

First Sun Blocker: Oh, no. You are not safe at all. Cloudy days are dangerous days for your skin.

Fourth Sun Blocker: You can't see the sun, but it's right up there in the sky, ready to fry your skin!

Sun Blockers: (*Singing*) Screen your skin on cloudy days. On cloudy days,  
On cloudy days.  
Screen your skin on cloudy days,  
And keep your skin from burning.

(*Sun Blockers bow, make their Dolls bow, then return to places on stage. Lifeguard crosses center*)



Lifeguard: Staying out of the sun is good. Using sunscreen to block the sun is even better. But there is another way to protect yourselves. Cover up! We need a Fashion Consultant to show us how. (*Blows whistle, then crosses down right. Fashion Consultant enters from off left as children in Fashion Show take places on stage center.*)

Fashion Consultant: Here's your fashion bulletin for the day. Skin is *out*. Shirts and pants are *in*. Covering up is smart and chic. Remember: you're not appealing when you're peeling - you're appalling! (*She puts down basket of sunglasses and broad brimmed hat as children bow*) These children are covered from top to toe. (*Notices Hatless Child*) Except for you - where's your hat?

Hatless Child: I meant to wear a hat, honest. I guess I just forgot. (*Hangs head*)

Fashion Consultant: Don't worry. Everybody forgets something now and then. I can make you a hat right now. (*Holds up newspaper*) All you need is a newspaper. Watch carefully... (*Musical background of "You Are My Sunshine" as Fashion Consultant makes a paper hat. When finished, Consultant holds up hat.*) ... There you are - a nice, shady hat! (*Musical chords as Consultant places hat on child's head with a flourish*) Now, let me inspect you all. (*She picks up basket of glasses and broad-brimmed hat, walks down the line of children, pausing at child in baseball cap*)... A baseball cap is good, but it does not protect your ears and the back of your neck. Let me give you a broad-brimmed hat to keep you in the shade all around. (*Exchanges hats. Then addresses audience*) Notice how these children are dressed in long sleeves and long pants. They are making a wonderful fashion statement: "Be Safe in the Sun." But remember - the sun shines in the winter too. (*Beckons to child in ski suit, who steps forward holding up bottle of sun lotion*) Not only does the sun shine, it also reflects on the snow. You can get a bad sunburn when the temperature is below zero, believe it or not! (*Child steps back in line. Consultant addresses audience*) Now, there is one important fashion accessory you must all wear when you are in the sun. I'll give you a hint. It's something you wear when there's sunlight and glare. What is it -? Sunglasses! That's right. Eyes front! (*Fashion show Children stand at attention. Consultant hands out sunglasses to all Fashion Show children. Musical chord. Children don sunglasses in unison*) There. The eyes have it! Remember - Pink, crimson, scarlet and other shades of red are fashion no-nos. Be chic, be *in*. Save your skin! (*Reprise of "You Are My Sunshine" as all children cross front to join Fashion Show. Lifeguard and Fashion Show Consultant stand left and right of children as all join to sing.*)

Children: When we're in sunshine, we will be careful,  
And common sense will be our guide  
We'll rub on sunscreen; wear hats and glasses,  
Find the shade or go inside.



Fashion Consultant: Your skin will thank you, when you are older.  
No scales or wrinkles will appear...

Lifeguard: When you are outdoors, be safe not sorry,  
Then you will have no sunburn fear.

All: *(To audience)* Enjoy the summer; enjoy the sunshine,  
Go out and swim and hike and play.  
We hope it's fun when you're in the sun, and  
You're careful each and every day! *(Ending with a Cheer)*  
Sunshine, Sunshine, Rah! Rah! Rah!  
Be safe in the sunshine, Rah! Rah! Rah! *(All bow, curtains close)*

The End



## Resources:

The American Cancer Society  
30 Speen Street  
Framingham, MA 01701-1800  
800-ACS-2345  
[www.cancer.org](http://www.cancer.org)

*Easy as A B C Sun Safety Program: An educational program for child care centers and child care givers.* Susan Boiko, MD. Fellow, American Academy of Pediatrics Fellow, American Academy of Dermatology. 760-599-2236

*California Early Childhood Sun Protection Curriculum.* 1997. California Department of Health Services, Skin Cancer Prevention Project. 916-322-2154

*Project SPF.* Arizona Department of Health Services, Early Childhood Consultant. 602-220-6550

*"Best Practices" Approach for Sun Safety Awareness in Early Childhood Education Settings.* 1995. Arizona Department of Health Services, Skin Cancer Prevention Program. 602-230-5862



### Children's Books on Sun Safety:

(Additional books are listed in the *Block the Sun Not the Fun* teacher's guide)

Ackerman, A. Bernard. *Your Skin is Showing*. Massin Publishing USA Inc., New York, NY, 1979.

Anholt, Catherine and Laurence. *Sun and Stars, Snow and Sky*. Penguin Group, New York, NY, 1995.

Arnold, Carolyn. *Sun Fun*. Franklin Watts, New York, NY, 1981.

Asch, Frank. *Bear Shadow*. Simon and Schuster, Inc., New York, NY. 1985

Gore, Sheila. *My Shadow*. Doubleday, New York, NY, 1989.

Melbourne, Constance. *Let's Look at the Sunshine*. The Bookright Press, New York, NY, 1988.

Orii, Eiji, and Orii Masako. *Simple Science Experiments with Light*. Gareth Stevens Children's Books, Milwaukee, WI, 1989.

Oxenbury, Helen. *Tom and Pippo at the Beach*. Candlewick Press, New York, NY, 1992.

Rockwell, Anne and Harlow. *At the Beach*. Simon & Schuester Children's Publishing Division, New York, NY, 1987.



## Child Care Safe Skin Policy

(name of the provider or program) can provide parents with a sun safety check list for clothing, hats, sunglasses and sunscreen.

Parents will provide protective clothing for children. Light colored, loose fitting, light-weight cotton clothing is best for sun protection. Tightly woven fabrics give more protection from the sun. To determine the weave of the clothing hold it to the light and assess the amount of sunlight that can pass through, less light is a tighter weave.

Parents will provide a hat for each child. The hat should have at least a 3 inch brim, and provide protection from the sun for the child's face, nose, neck, and ears. Parents must clearly mark the child's first and last name on the hat.

Parents must take the hat home weekly to clean. (name of provider or program) will provide children a place to store their hat and remind children to wear their hat when going outside.

(name of provider or program) encourages children to wear sunglasses while outdoors. Sunglasses should be shatterproof to protect the eyes in case of breakage. Look for sunglasses labeled, "meets ANSI z80.3 General Purpose requirements" or meets "ANSI Z80.3 Special Purpose Requirements", to assure that they can block UVA and UVB rays. Parents must clearly mark sunglasses with child's first and last name (fingernail polish or permanent marker works best). Parents and children should bring glasses with them and take them home daily. (name of provider or program) will provide children a place to store their glasses when they are not using them.

Children will wear sunscreen and a lip balm containing sunscreen each day. The first application of the sunscreen and lip balm shall be administered by the parent before the child arrives. (name of provider or program) shall administer additional application only when the parent or legal guardian has completed and signed the medication and/or sunscreen permission form. The sunscreen and lip balm for additional application will be provided by (name of who will provide sunscreen and lip balm, it could be the parent or the provider).



## Sample Sunscreen Letter

Dear Parent,

At (name of program or child care center) we want to keep your child safe! Did you know that sunburns experienced in childhood have been linked to the development of skin cancer later in life? Skin cancer can be prevented by practicing the ABC'S of sun safety. A -- stay **away** from the sun during the hours of 10AM and 4PM, B -- **block** the sun, C -- **cover** up with long-sleeve shirts and hats, and S -- seek **shade**. These are a few of the lessons your child will learn as we strive to "ban the burn"!

In our effort to "ban the burn "we are instituting a Safe Skin Policy at (name of program or child care center), we want all of our children to wear sunscreen throughout the day and to come to school with a hat, long-sleeve shirt, and sunglasses. Please label each with your child's name.

We will be starting a Safe Skin unit on (date). It will include games and activities about sun protection. Our goal is to teach the children that the sun is fun when you protect yourself from harmful burning rays. We intend to monitor the children's time outdoors in direct sunlight and provide shade structures for them to use when outdoors.

We have enclosed a permission form to enable us to apply sunscreen to your child during the day. We ask that you apply the first coat of sunscreen before they arrive at (name of program or child care center). At mid-day, we will apply another coat of sunscreen to your child. Each child should bring their own bottle of SPF 15 sunscreen to school to be labeled and stored here. If the child does not have his or her sunscreen the center will (list measures taken) OR We will apply sunscreen to each child. We will use XXXX brand sunscreen. All sunscreen will be applied with a new pair of latex gloves.

Please help us protect your child from sunburns. What you do now can make a big difference for your child later in life. If you have any questions, please contact (name of the director or teacher) at (phone number) .

Sincerely,

(director of the program or child care center)



## Child Care Center Sunscreen Permission Form

Date: \_\_\_\_\_

Name of Child: \_\_\_\_\_ Birthdate: \_\_\_\_\_

Name of sunblock or sunscreen product and SPF number:  
\_\_\_\_\_

Does the child have allergies to sun protection products?      Yes      No  
If yes, name the product:  
\_\_\_\_\_

A sunscreen product of SPF 15 or higher will be applied to bare skin surfaces, including but not limited to; the face, tops of the ears, nose, and bare shoulders, when outdoor activities in direct sunlight, are scheduled. Please label the product with the child's full name and age.

Parent Signature:  
\_\_\_\_\_

Special Instructions:

- In the event that my child's sunscreen is not readily available, my child may use sunscreen provided by the school/daycare: sunscreen brand and SPF.
- I do not want my child to use any sunscreen other than the one he/she brings with them. I understand that my child will not be allowed outside if he/she forgets their sunscreen.
- I understand that sunscreen will be applied to my child with clean latex gloves. My child is not sensitive to latex.





# How to Put Sunscreen on MOVING, SQUIRMING CHILDREN

- Play connect the dots! Place dots of sunscreen on children's bodies and have them connect the dots by rubbing in the sunscreen.
- Have children apply the sunscreen themselves.
- Give children lots of praise and positive reinforcement.
- Give children a sticker every time they put on sunscreen.
- Some children enjoy putting sunscreen on when it's treated like make-up.
- Let children put sunscreen on you.
- Make the application of sunscreen a regular part of their morning routine. Brush teeth, put on sunscreen, get dressed, brush hair, eat breakfast, etc.
- Sing a nursery rhyme while applying sunscreen.
- Ask the children where you should put the sunscreen. Let them squeeze the bottle. Give them some control.
- Make it fun.

**For More Information Call:**

**Mass. Department of Public Health  
Max Care  
800-487-1119**

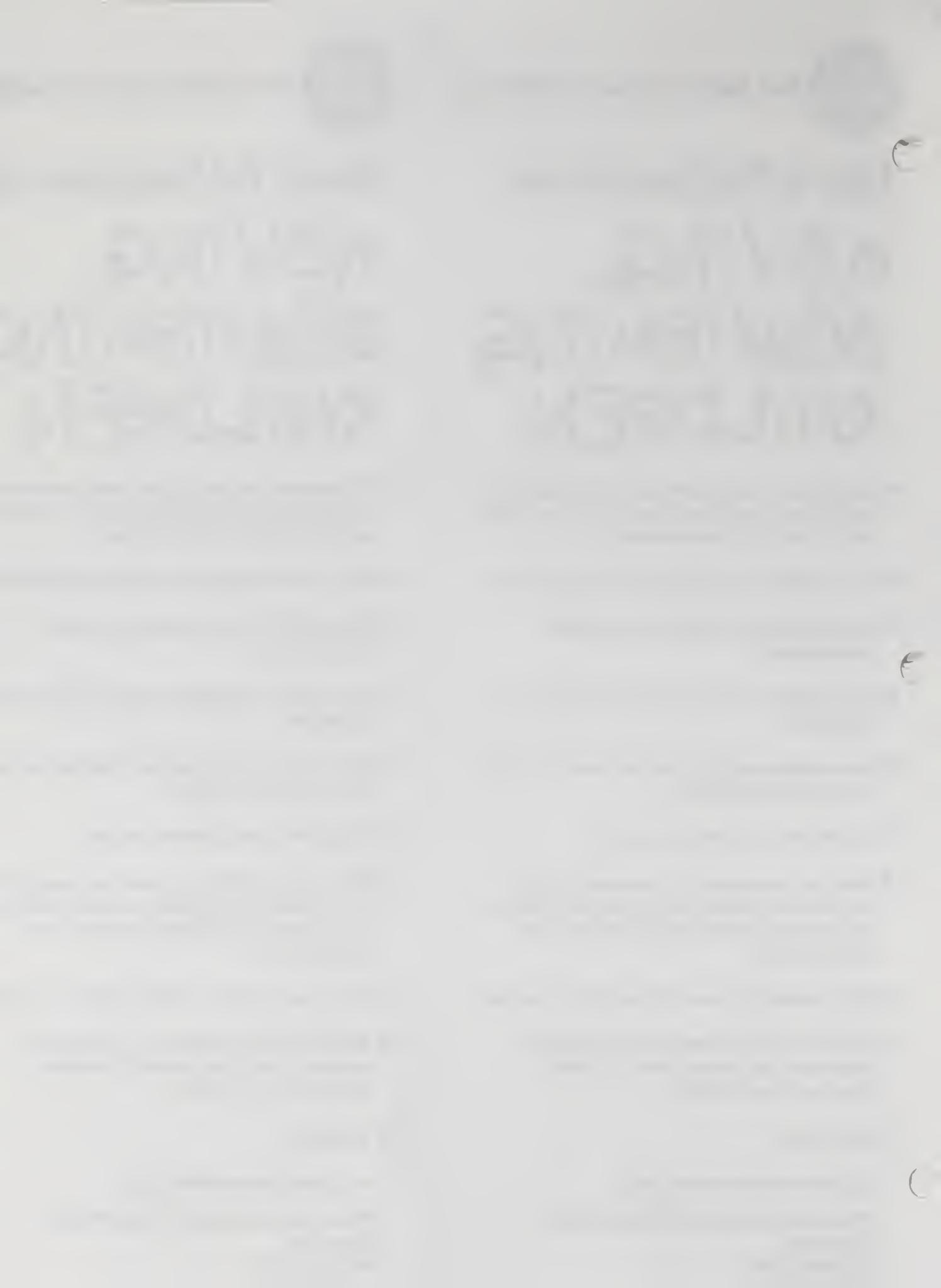


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## **Tips from SunSpot the Do-Right Dog**

- Short shadow. Seek shade! Teach children to go into the shade if their shadow is shorter than they are.
- Limit the time in the sun, regardless of the hour or season.
- Sitting in the shade or under an umbrella does not guarantee protection. You still need protective clothing.
- Protect your child with a wide brimmed sun-hat, long-sleeved shirt and long pants.
- Apply a sunscreen with a sun-protection-factor (SPF) of 15 or greater whenever you spend time outdoors. This includes soccer camp, kickball, gardening and the beach!
- Be sure to apply sunscreen at least a half hour before you go into the sun and reapply it at least every two hours.
- Beware of surfaces that reflect the sun. Sand, water and snow can reflect as much as half the sun's rays onto your child's skin.
- Cover up on cloudy days. The sun's rays can be as strong on cloudy, hazy days as they are on sunny days.
- If you follow these simple tips, your child is likely to adopt sun protection habits that will last a lifetime.

**Turn this card over for tips on how to put sunscreen on moving, squirming children!**

A Project of the Massachusetts Department of Public Health



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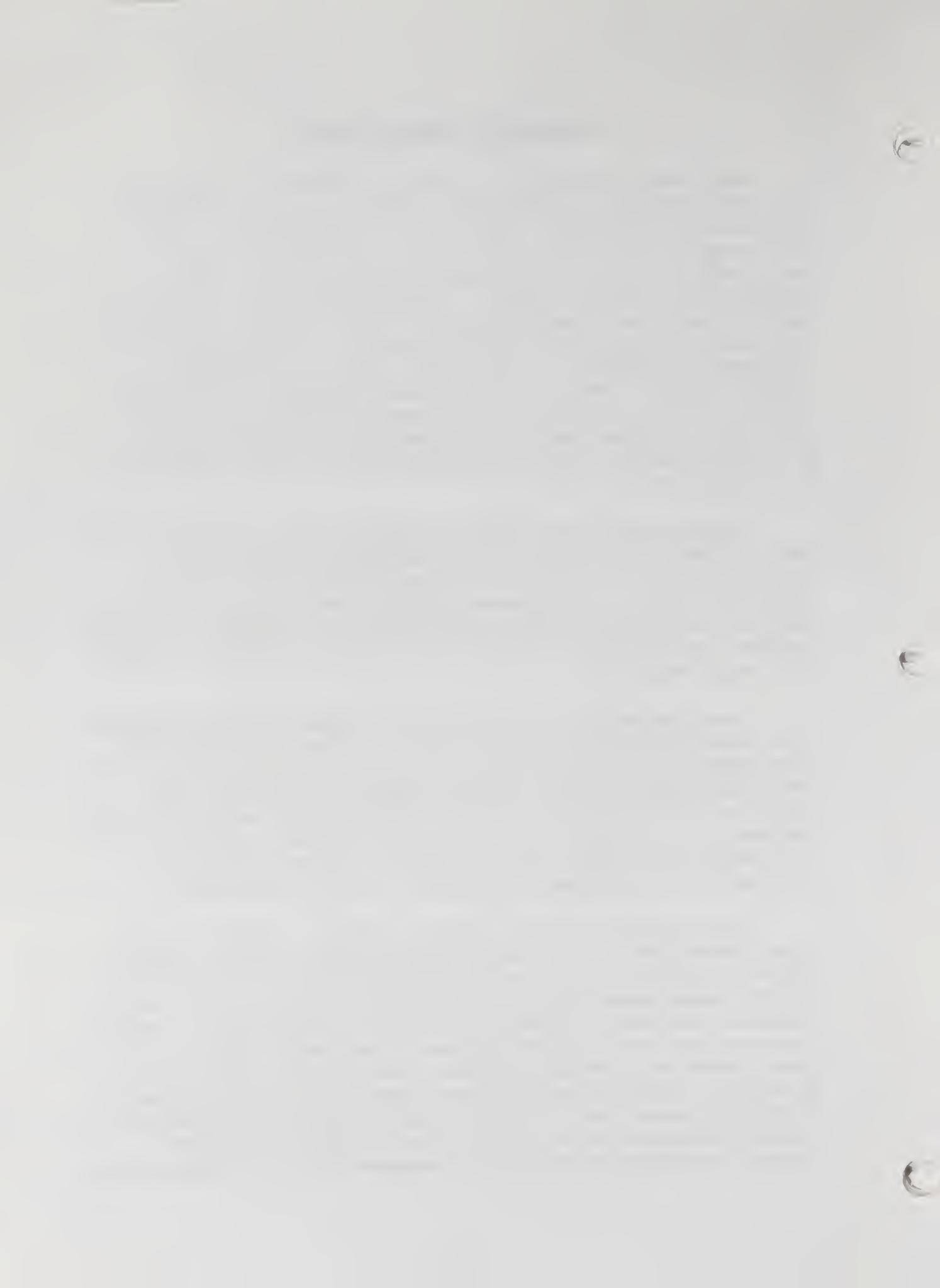
## Recreation Departments

Many families throughout the community participate in youth programs through the recreation department, YMCA, and other clubs and organizations. By accessing these programs, a large number of children can be educated. These programs include sports teams, camps, and various specialized lessons. It is important to target all the children participating, especially the children spending much of their time outdoors. Creating a Safe Skin relationship with a senior member of the recreation department is helpful. By asking the various organizations to take control of Safe Skin education and practice, it will be established as a lasting part of their program. Urge the organization to include Safe Skin education in their manuals and training handbooks so as to continue the Safe Skin training year after year. Eventually this can also develop into established regulations about the organization's sunscreen use. (A sample of the sunscreen permission form and Safe Skin Policy can be found at the end of the Schools section.)

Massachusetts includes a safe skin policy in the *Minimum Sanitation and Safety Standards for Recreational Camps for Children, section 430.163: Protection from the Sun*. It reads: *The operator shall at all times encourage campers and staff to reduce exposure to ultraviolet exposure from the sun. Such measures shall include, but need not be limited to, encouraging the use of wide brim hats, long sleeve shirts, long pants, screens with a solar protection factor of 15 or greater and lip balm.*

Begin by approaching the director of the recreation department, the chair of the recreation committee, and the heads of the various programs offered. Many staff members are town residents who would be valuable members of the Safe Skin Committee. Invite the people responsible for the camps, sports teams, beach or pool department, and any other appropriate program to become members of the committee if they aren't already. Safe Skin representatives in the recreation department can guide the various programs, train their own employees, and develop specific intervention plans for their organization.

Once the Safe Skin Project has been accepted as part of the program, begin by training the staff. The training should be held at the beginning of the season and include counselors, teachers, lifeguards, coaches, and instructors. (See the Training section.) Many programs have an orientation meeting which requires the attendance of all employees. Give a short presentation including tip sheets, sun prevention facts, and guidelines for sun stroke, exhaustion, and cramps. (Many employees deal with these issues daily and will appreciate the knowledge.) Model the presentation to fit the group you're addressing. Make it an interactive presentation. Providing a sense of ownership in the training in this part of the program is also helpful in the adoption of Safe Skin practices. Convey to the training groups that this is an opportunity for them to help children.



With their help the community can lower the incidence of skin cancer in the years to come.

The Massachusetts Department of Public Health developed tip sheets on sun protection for parents. Camera ready copies are included in this handbook. Copies are also available free of charge (617-624-5070).

### **Plan of Action**

1. Contact the recreation department and establish relationships with members of the supervisory staff. They should already have been invited to the Advisory Committee's first meeting. If not, invite them to the next meeting. It is important to get someone involved!
2. Explain to the supervisor the importance of their involvement in the project. Touch on the skin cancer facts listed in the handbook. Bring select articles, tip sheets, and pamphlets for them to review.
3. Once the organization has made a commitment to the project, establish some mini-programs and goals for the organization. (See below.)
4. Set up a staff training time -- an orientation meeting of all employees is an ideal time. Ask for volunteers from the Safe Skin Committee to help with the initial training with the goal that each department will eventually become familiar with the information and train its own staff.
5. Suggest the addition of the Safe Skin practices to their employee handbook or manual.
6. Maintain open communications with the recreation department.

### **Mini-Programs**

The mini-programs are smaller, specific programs that can help the organization implement Safe Skin practices. They may include sunscreen donations to the employees, additional areas of shade, and skin cancer screenings by a local dermatologist. The Project can help the department with ideas and methods of achieving their goals. Be creative! Falmouth saw the development of sun protection for lifeguard stands, parking attendant, camps, and sports teams. Urge the recreation department to continue the spirit of the program by providing sunscreen for their staff. The management can also begin to contact sunscreen manufacturers on their own for sunscreen donations. Work with the community organizations to develop ideas and designs for shade structures.

The presence of posters and pamphlets from the American Cancer Society (800-ACS-2345) or the American Academy of Dermatology (847-330-0230) at the recreation department headquarters are helpful in reminding the staff and patrons to "ban the burn". Beach headquarters often post water temperature, the daily UV index could also be posted. Tip sheets and pamphlets



should also be available to patrons. Periodic verbal reminders to the staff also help to make sunscreen use and advising second nature.

## Camps

Children in camps spend much of their day participating in outdoor activities. The following guidelines will help to create a Safe Skin environment for children.

- When the camp has agreed to include Safe Skin practices begin the training of counselors and staff
- Distribute sun protection information and camp policies at camp sign up. Include a sunscreen permission form in the camp registration form and have staff available to discuss importance and purpose of the program. (See policy, letter, and permission form at the end of the Schools section.)
- Make recommendations to parents and caregivers to provide hats, protective clothing and sunscreen for their children. Suggest that these be included in the camp manual and rules.
- Assess camp facilities. (See Protecting Fields and Parks.) Is there enough shade, does the schedule allow for time out of the sun?
- Instruct counselors to discuss with campers the strength of sun, beneficial and harmful aspects and how to protect themselves and campers from getting burned. (See Training Camp staff.)
- Implement games and activities from the onset of the camp session. (See Preschool section.)
- Break for sunscreen reapplications throughout the day.
- Be sure to remind counselors that they are role models for the children -- they should practice what they preach.
- Reward campers during the day for Safe Skin practices with small incentives- candy, stickers, etc.

**See Training -- Points to Discuss with Preschool, Child Care, and Camp Staff**

## Activities

### Art

- Create Safe Skin posters. Have a contest with judges and prizes. Laminate the best posters to hang around the facility.
- Create comic strips dealing with different components of sun protection
- Create hats from newspaper for children to decorate along with safe sun clothing

### Science

- Discuss the thinning of the ozone
- Focus on the sun's effects on plants, animals, and humans



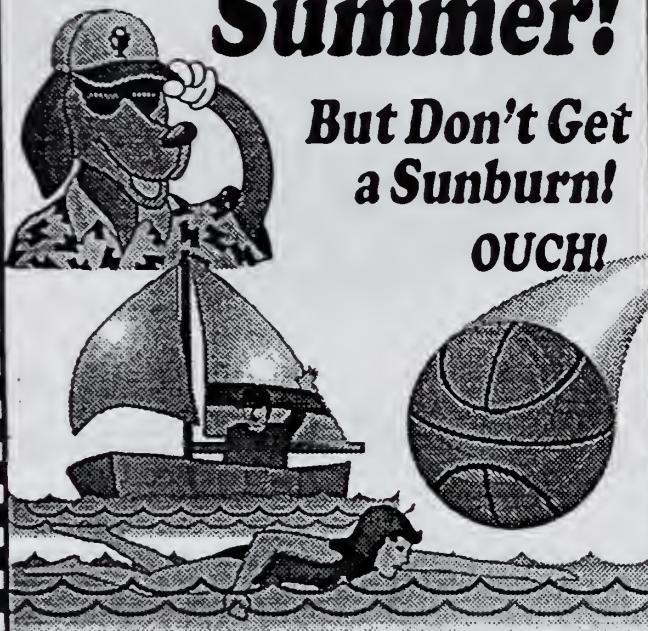
Drama-

- Make up sun protection lyrics to existing songs
- Perform skits about sun protection. See the Safe Sun play in the Preschools and Child Care section.

**See the Preschool and Child Care Section for more activities.**



# Have Fun at Camp This Summer!

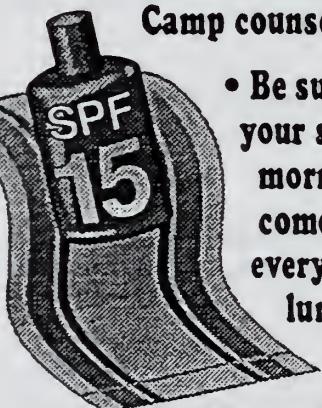


But Don't Get a Sunburn!

OUCH!

These are the 3 Sun Safety Rules of the Recreation Summer Camp:

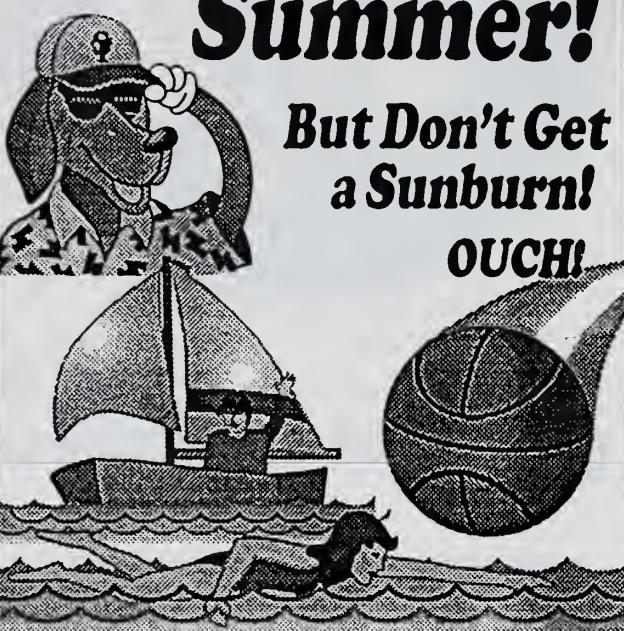
- Remember to pack your sunscreen every day
  - If you forget, ask your Camp counselor for some
  - Be sure to put on your sunscreen every morning before you come to camp and every day after lunch



Let your Mom or Dad see the other side of this Tip Sheet!

A Project of the Massachusetts Department of Public Health

# Have Fun at Camp This Summer!

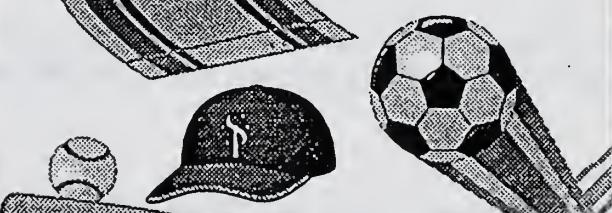


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## ***Safe Sun Tips from SunSpot the Do-Right Dog***

**S**hort shadow. Seek shade! Go into the shade between 10 a.m. and 4 p.m. – peak sunlight hours.

**A**pply a SPF 15 (or higher) sunscreen that blocks both UVB and UVA rays whenever you spend time outdoors. This includes basketball, sailing, tennis, soccer, biking, and the beach!

**F**un in the sun needs to be limited. Limit your time in the sun during hot, sunny days.

**E**veryone needs to cover up with hats and shirts.

**S**unscreen should be applied liberally and evenly to all exposed skin and reapplied at least every two hours.

**U**nderstand that sand, water, cement and snow can reflect as much as half the sun's rays onto your skin even if you are in the shade.

**N**o tan is a healthy tan. A tan is a sign of injured skin from the sun's damaging rays – even if you don't burn first.



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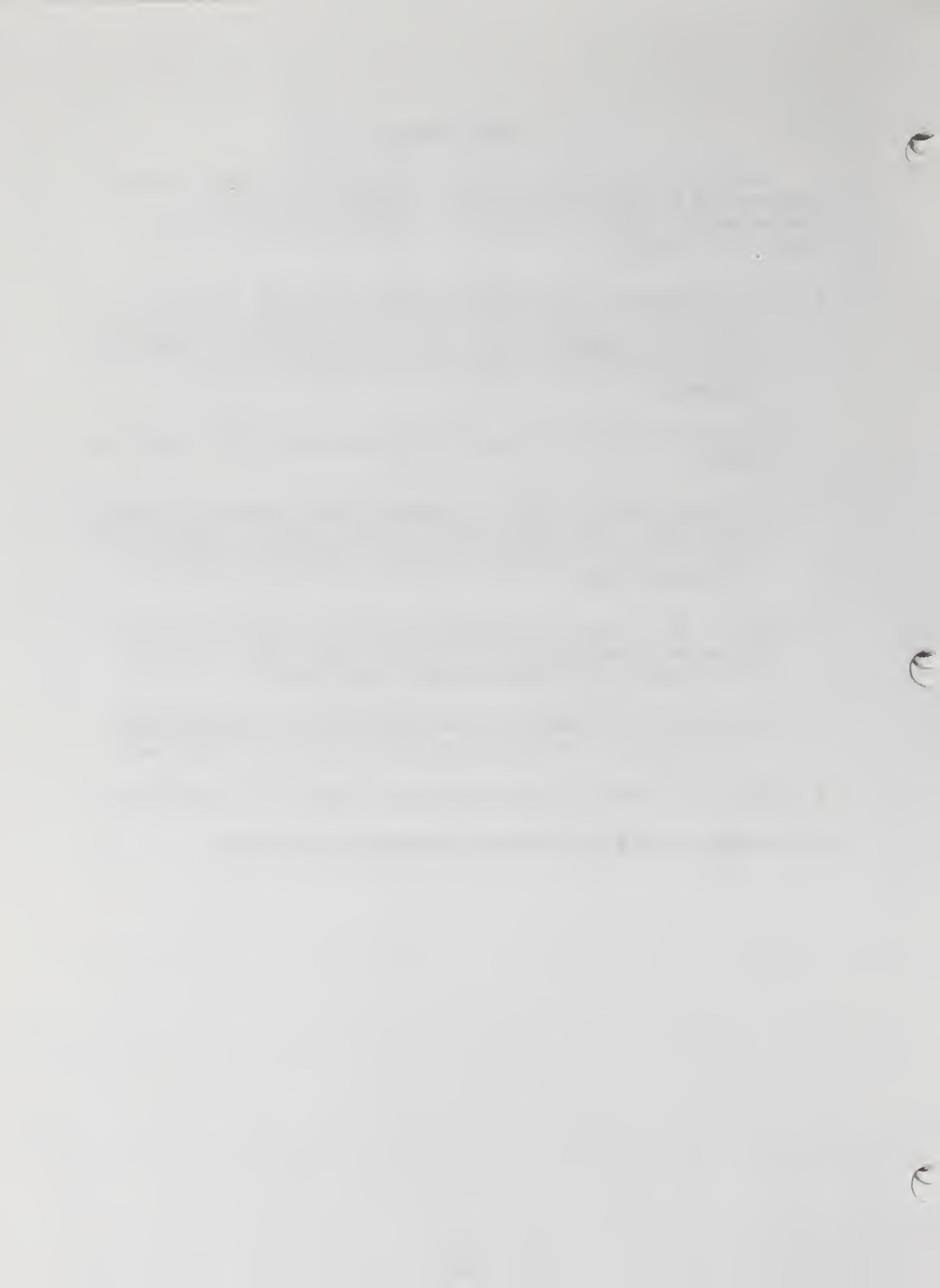


## Sports Teams

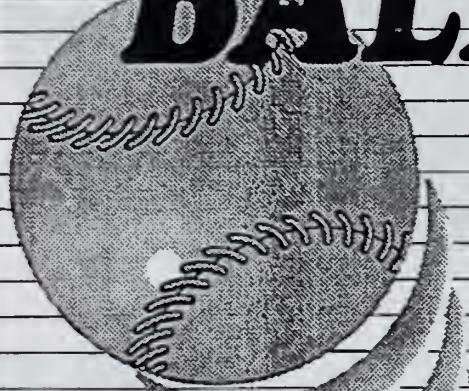
Many teams are coached by parents. Enlist coaches to help in providing sunscreen and shade for the players and monitoring their sun exposure. Coaches influence children. Ask them to set a good example by being the "expert" Safe Skin coach.

- Discuss the objectives and practice of the Safe Skin Program with the coaches at the beginning of the season. Gain their support through the common goal of keeping our kids safe. Provide brief training materials for coaches. (See Training -- Points to Discuss with Coaches and Lifeguards.)
- Distribute tip sheets and other sun protection information at team registration sessions.
- Tour the playing fields to assess the amount of shade available to the players and spectators. (See section Protecting Fields and Parks.) Discuss ways in which to provide more shade if necessary. Temporary dugouts and trees are viable ideas.
- Present or send to parents information on the team's intent to "ban the burn". Ask parents to provide sunblock and hats for their children. Provide a short fact sheet and tip sheet for parents and children.
- Ask coaches to set an example for their team by wearing protective clothing, hats, sunglasses, and applying sunscreen in the presence of their team.
- Suggest the possibility of making hats with their team mascot for the players.

**See Training -- Points to Discuss with Lifeguards and Coaches**



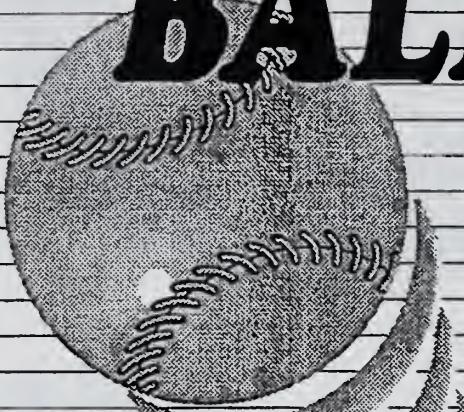
# PLAY BALL!



LET  
SUNSCREEN  
GO TO BAT  
FOR YOU!



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## Beaches and Pools

Residents of seaside communities and communities with access to lakes, ponds, and pools spend many hours in the sun. For many, suntanning is a lifelong habit. Beach and pool departments, as well as recreation departments are an excellent means of spreading the Safe Skin message. As the Safe Skin Project found, lifeguards embraced the program because of their own experiences: uncomfortable sunburns and the risk of skin cancer. Contrary to popular belief, many lifeguards are advocates of sunscreen and have the unfortunate experience of watching people sunburn day after day. As working in the sun is a lifestyle for many, sun protection has also become a way of life. Sun protection is first and foremost on many lifeguard's minds.

Lifeguards are role models. They have long been recognized by their deep dark tans. Use the lifeguards to make the dark tan out of style in your town. Times are changing. A healthy lifestyle in a Safe Skin community is bringing sunscreen to the beach and applying it throughout the day just like the lifeguards.

- Train employees at the beginning of the season. Stress to the beach staff that they are role models. Children and adults view lifeguards as glamorous, healthy, fit people they strive to model. They have the ability to help change people's attitudes towards the sun and sun protection.
- Cite swimming lessons as one of the most productive implementations of the Safe Skin Project. The swimming instructor begins the lesson with "Does everyone have their sunscreen on?", promoting awareness on both the child's and the adult's part. (Small incentives, like temporary tattoos, increased sunscreen use during the swimming lessons.)
- Tour the beaches, lakes, and pools and note shade availability for beach patrons and staff. (See Protecting Fields and Parks.) Protective coverings for lifeguard stands can be developed. (See resources.)
- Beach staff should reinforce that the beach is fun when you "ban the burn" by the daily implementation of sunscreen use and wearing hats and protective clothing.
- The Ultraviolet Index should be posted in the Beach Headquarters and tip sheets and pamphlets should be available.
- When providing outdoor uniforms consider long-sleeve T-shirts, long pants, and protection for feet.

**See Training -- Points to Discuss with Lifeguards and Coaches**



**Resources:**

American Cancer Society  
30 Speen Street  
Framingham, MA 01701-1800  
800-ACS-2345

*Easy as A B C Sun Safety Program: An Educational program for child care centers and child care givers.* Susan Boiko, MD Fellow, American Academy of Pediatrics, Fellow, American Academy of Dermatology 760-599-2236.  
Copies are also available from the Massachusetts Department of Public Health 617-624-5020

*Georgia's "Got Youth Covered" Training Manual.* 1996. Georgia Department of Human Resources, Cancer Control Section 912-353-5185  
Copies are also available from the Massachusetts Department of Public Health 617-624-5020

*Project S.A.F.E.T.Y.* module  
Science curriculum with *Tanlines* video  
MD Anderson Cancer Center  
1515 Holcombe Boulevard  
Houston, TX 77030  
713-745-1205

Canvas shelters for lifeguard stands and parking attendants  
Suntops  
Mike Twombley  
PO Box 498  
West Falmouth, MA 02574  
508-540-4423



## Protecting Public Fields and Parks

Since children spend much of their time outdoors participating in sporting activities it is a good idea to gauge the amount of shade available at fields, parks, and pools in the community. Trees provide the best shade although portable dugouts and umbrellas can be used to provide protection.

Use the enclosed maps to assess the amount of shade available to players and spectators attending sporting events. In the maps the area of possible shade available is divided into 10 sections. Observe how much shade is available in each section of the map at "high noon". Place an M in the boxes that are mostly shaded, an L in the boxes of the areas less than half shaded, and an N in the boxes with no shade. For each tree enter a T on the diagram.

To calculate the amount of shade in the area allow 2 points for each M, 1 point for each L, and 0 points for each N. Add the points together. The score is based on a 20 point maximum. For this you can calculate the percentage of shade available for the athlete's and spectators at the field. Maps can be created to be site specific for the recreation areas in your town. Remember to divide up only the space available for shade. It would be impossible to provide shade directly on the playing fields without disrupting play.

From the results of these shade maps determine which fields need shade. Work with town garden clubs, beautification committees, and the recreation department to provide more shade for these fields in the form of trees and man made coverings. Use these results to create activities for Arbor Day and other town beautification events. (See the Special Events section.) Create a press release publishing the findings. Appeal to community members to help make your town sun safe.

### **Resources:**

California Early Childhood Sun Protection Curriculum. 1997. Skin Cancer Prevention and Nutrition Section, California Department of Health Services 916-322-2154



## SHADE ALTERNATIVES--Swimming Pools

Purpose: this survey device is meant to estimate the amount of shade swimmers and others have at swimming pools when out-of-the-water. The diagram on the reverse side of this paper shows a standard shape pool with perimeter lines drawn 5 yards and 20 yards from the edges of the pool. Although some swimming complexes are comprised of more than one pool (ie. a diving or wading pool separated from the principal pool) or contain an irregularly shaped pool (ie. a diving pool extends from the larger pool), this study is concerned with measuring the shade surrounding the primary pool.

FIRST: Draw a dotted line where fencing, buildings or parking lots are located which define the area for pool users.

NEXT: Survey the shade around the primary pool. The *study area* is between the five and twenty yard lines around the pool. Imagine each long side of the pool divided into 2 areas (boxes). Each short side and each corner then has an additional area (box). At "high noon" which of these boxes would be shaded? Drop an imaginary line from the edge of the shading device (usually a tree) to the ground.

For each box that is mostly (more than half) shaded, enter an M.

For each box that is partly (less than half) shaded, enter an L.

For each box that is not shaded, enter an N.

For each tree, enter a T on the diagram.

For each awning or shade structure, enter an A on the diagram.

Do not mark umbrellas, but note how many are provided.

### COMMENTS:

### OFFICIAL USE:

score:

each M = 2 x \_\_\_\_ =

each L = 1 x \_\_\_\_ =

each N = 0 x \_\_\_\_ =

TOTAL = \_\_\_\_\_  
20

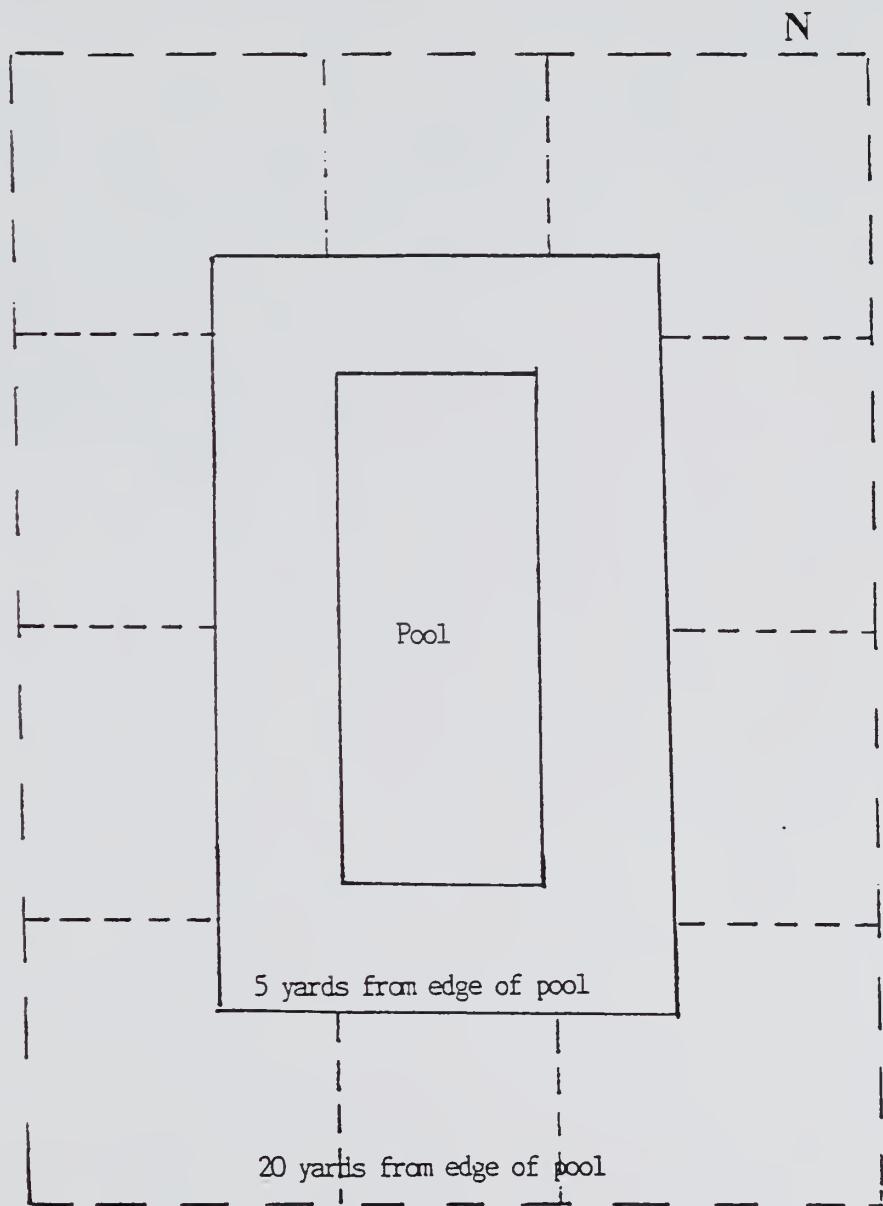


Mark the diagram as follows:

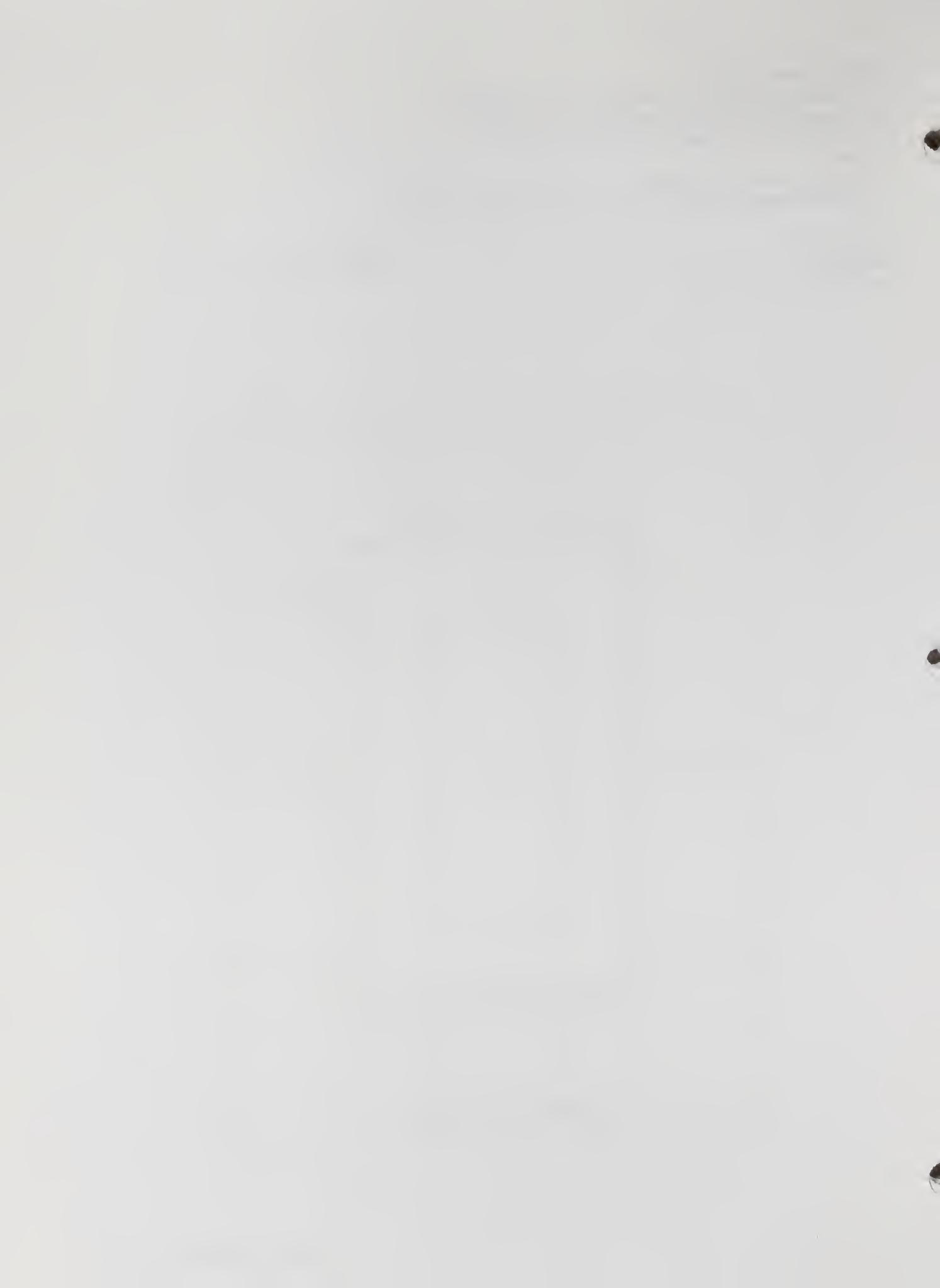
- \*M: If More than half the box is shaded, put an "M" in that box.
- \*L: If Less than half the box is shaded, put an "L" in that box.
- \*N: If None of the box is shaded, put an "N" in that box.
- \*T: Tree
- \*A: Awning or other shade structure
- \*U: DO NOT MARK UMBRELLAS, but note how many are provided.

Name of facility: \_\_\_\_\_  
Park District: \_\_\_\_\_  
Your Name: \_\_\_\_\_

Address: \_\_\_\_\_  
Date: \_\_\_\_\_



Number of umbrellas \_\_\_\_\_



## SHADE ALTERNATIVES--Baseball/Softball Fields

Purpose: this *survey device* is meant to estimate the amount of shade a player or viewer has access to at a game. The diagram on reverse shows the area behind the fence, 5 yards deep, from third base around to first base. Imagine that each segment is divided into 4 areas (boxes) along each side and 2 lengths behind home plate. At "high noon" which of these boxes would be shaded? Drop an imaginary line from the edge of the shading device (usually a tree) to the ground; do *not* count the first yard back from the fence.

For each box that is mostly (more than half) shaded, enter an M.

For each box that is partly (less than half) shaded, enter an L.

For each box that is not shaded, enter an N.

For each tree, enter a T on the diagram.

### COMMENTS:

### OFFICIAL USE:

each M = 2 x \_\_\_\_ =

each L = 1 x \_\_\_\_ =

each N = 0 x \_\_\_\_ =

TOTAL = \_\_\_\_\_  
20



Mark the diagram as follows:

\*M: If More-than-half of the square is shaded, put an "M" in that box.

\*L--If Less-than-half the square is shade, put an "L" in the box.

\*N--If None of the square is shaded, put an "N" in the box.

\*T--Tree

Name of field: \_\_\_\_\_

No. of diamonds in park \_\_\_\_\_

Address: \_\_\_\_\_

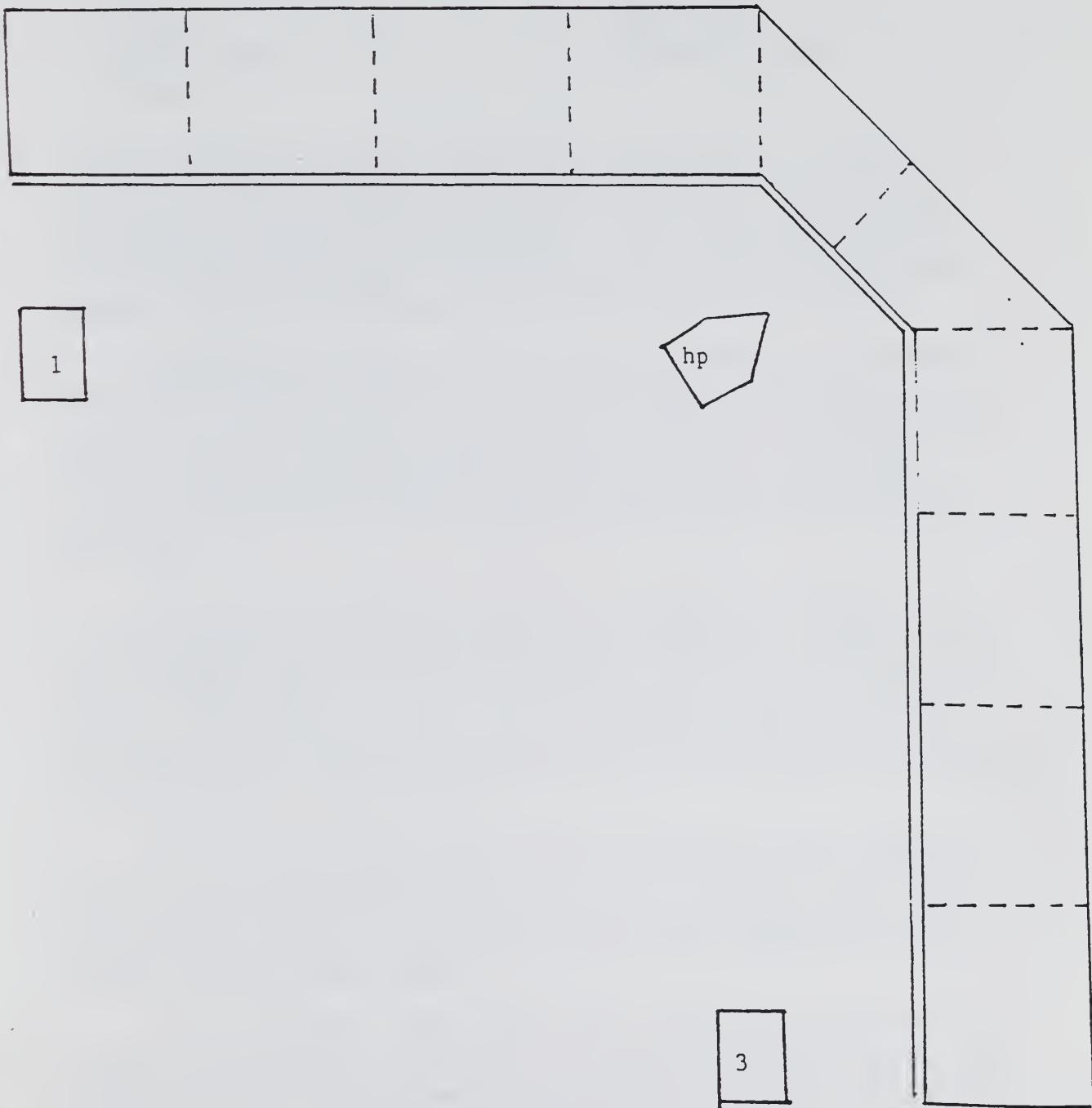
Which diamond is this? \_\_\_\_\_

Park District: \_\_\_\_\_

Date: \_\_\_\_\_

Your Name: \_\_\_\_\_

↑  
5 yards  
↓



← 5 yards →



## Special Events

Find or develop a calendar of town events and determine which ones lend themselves to some aspect of the Safe Skin Project. (Check your town hall/city hall or library.) For some events, the mere presence of a Safe Skin booth or table will suffice. Possible events include:

- Fairs
- Festivals
- Sporting events
- Parades
- Road races
- Arbor Day
- Melanoma Monday

An information booth can be an actual booth or just a table at a fair or other exposition. Have pamphlets, tip sheets and incentives ready to distribute. A brightly colored poster explaining the project is helpful, as is a catchy slogan. The Falmouth program used "Ban the Burn." Recruit children to hand out tip sheets to spread the message. Involve the media in these events. (Sample articles are included in the Media section and at the end of this section.)

In Falmouth, the Safe Skin Project has been extremely well received at Arbor Day. Arbor Day is a great way to combine the environment and the people. By planting trees, the community is protecting the environment and its residents. Suggest sites where there are few trees, around playing fields, playgrounds, or anywhere that residents spend time outdoors. Evaluate the results from the Protecting Parks and Fields section when deciding where to plant trees.

Enlist the help of different town youth organizations or suggest it as a possible project for a town beautification group or garden club. (See the Arbor Day newspaper article at the end of this section.) Involve as many groups as possible. Hold an Arbor Day poster contest requiring each poster to display the beneficial characteristics of trees. Give away seedlings at the ceremony for residents to plant for shade in their own yards. Have a story telling time focusing on the importance of shade and trees.

Often schools and other organizations hold clean up days to help the environment. These are good opportunities for the Safe Skin Project to gain recognition and support from other community groups and gain publicity. By helping these groups they might in the future be able to help the Safe Skin Project in efforts to "Ban the Burn."

Posters displayed at fields, parks, and at outside events reinforce your message to use sunscreen. Therefore, it is a good idea to ask concessionaires to have sunscreen, hats, and sunglasses available for purchase. Often people forget to apply sunscreen before they leave the house and also forget to bring it



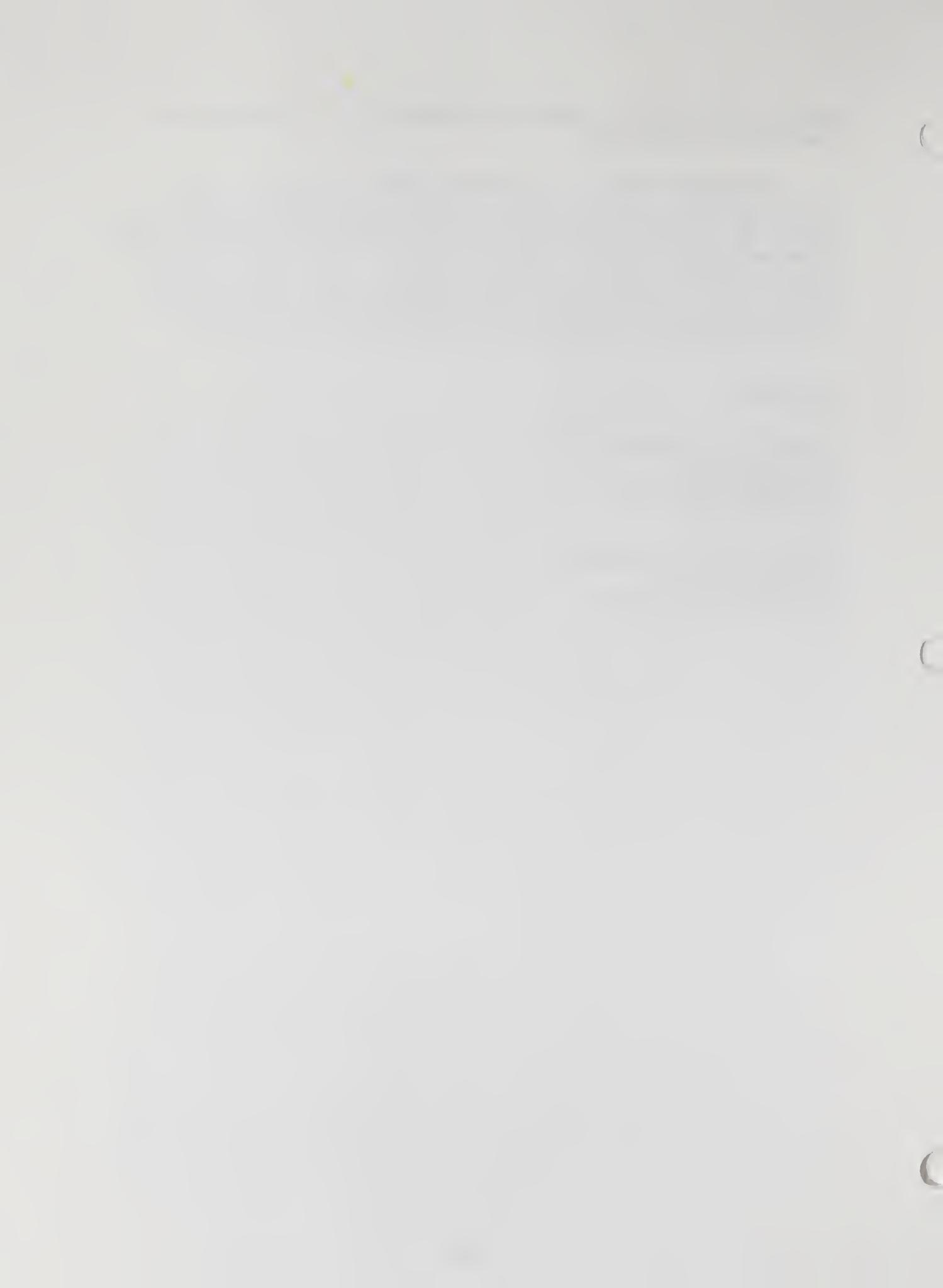
with them. It is important to make the Safe Skin information available to the community at outside events.

Melanoma Monday is the first Monday in May. The entire month is Melanoma Month. The focus of Melanoma Monday is to promote self skin exams. Many chapters of the American Cancer Society conduct free skin exams by dermatologists. Contact the dermatologists on the committee or your local American Cancer Society to arrange for screenings. Also, use an information booth to promote activities scheduled for Melanoma Month. Use Melanoma Month to promote the activities and programs included in your program.

### **Resources:**

American Cancer Society  
30 Speen Street  
Framingham, MA 01701  
800-ACS-2345

National Arbor Day Foundation  
100 Arbor Avenue  
Nebraska City, NE 68410



## Arbor Day Newspaper Articles

The accent is on children and trees as preparations continue for (town's) annual Arbor Day celebration at time and date at (where).

The Arbor Day committee is made up of representation and participation from the (name organizations involved).

This year the (name of program) is playing a major role in the Arbor Day celebration. The (name of program) is made up of (town) residents working to reduce skin cancer rates in (town). The project focuses on preventative sun protection lessons for children and adults. The Project hopes that Arbor Day will draw attention to the necessity of trees for shade around the town's fields and parks.

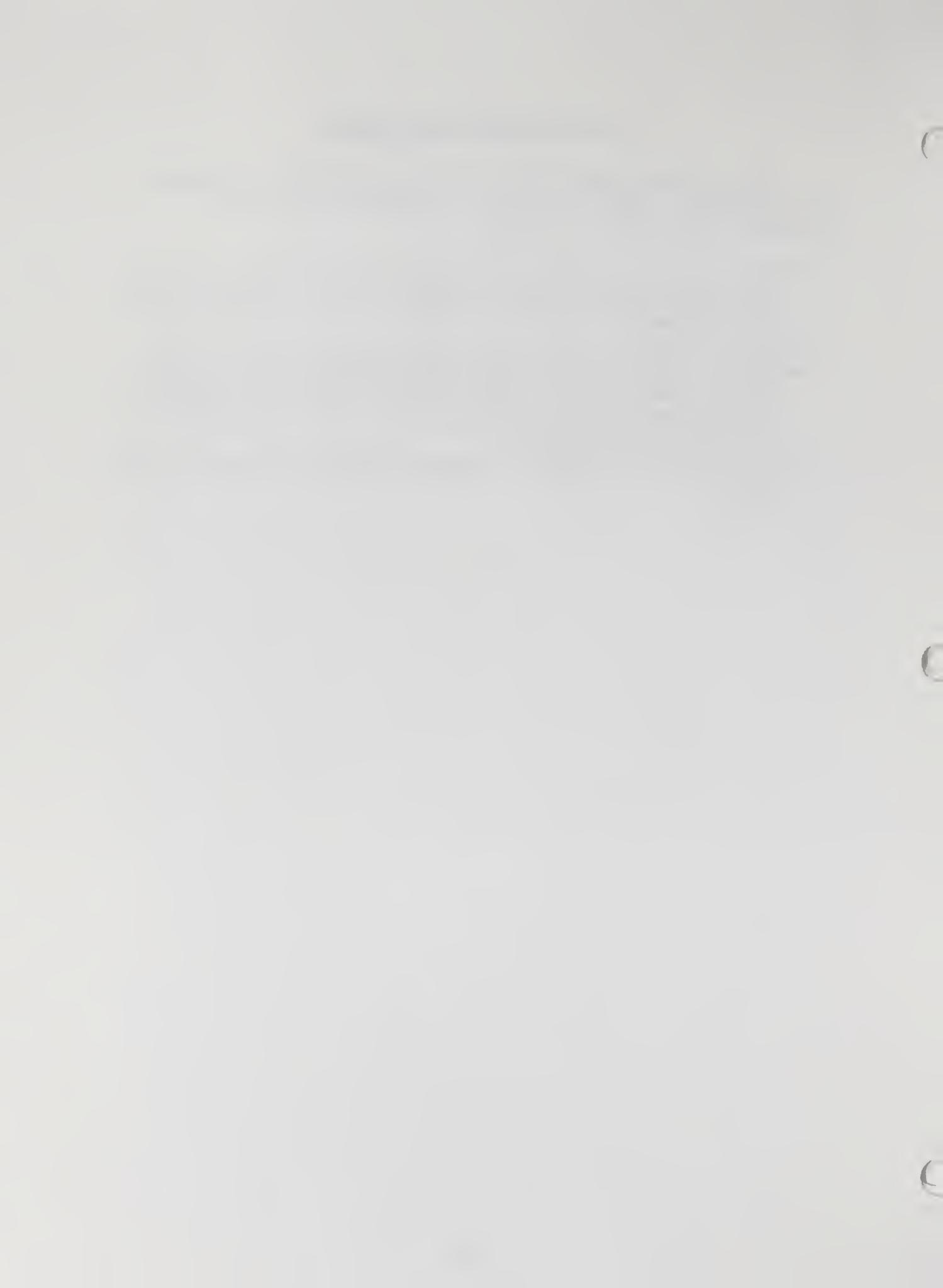
Arbor Day is one way in which the Project aims to increase sun protection awareness and create Safe Skin environments around (town). The (name of program) has also taken steps to incorporate its message in (other organizations and events the project is involved in).



## Commercial Businesses

Stores and shops in a community can be a great help in spreading the Safe Skin message. Approach owners and managers to be Safe Skin Ambassadors by providing the following:

- donation of coupons rewarding Safe Skin practices (incentives to shop and eat between 10AM and 4PM) to distribute with other Safe Skin materials you may develop.
- donation of funds for printing and/or materials approved by the committee.
- willingness to “advertise” the program by displaying posters in their windows. A camera ready copy of a poster is included in this section. Posters can also be developed by the committee or run a contest in the schools, see the Elementary School section.
- distribution point for incentives such as buttons and pens, if available, and tip sheets.



**Please Become a Safe Skin Ambassador**  
**Let's make \_\_\_\_\_ a Safe Skin Town**  
**Set a National Standard**  
**for Safe Skin Habits**

NAME:

BUSINESS NAME:

CONTACT PERSON:

PHONE:

day:

evening:

FAX:

I will support the Safe Skin Project and  
will participate in the 10AM to 4PM incentive program designed to boost  
mid-day business.

Please deliver:

- poster to display in my window
- Tip Sheets
- Buttons
- Pens              -Change according to materials available
- Tattoos
- Grafeeties (bumper stickers for soles of sneakers)

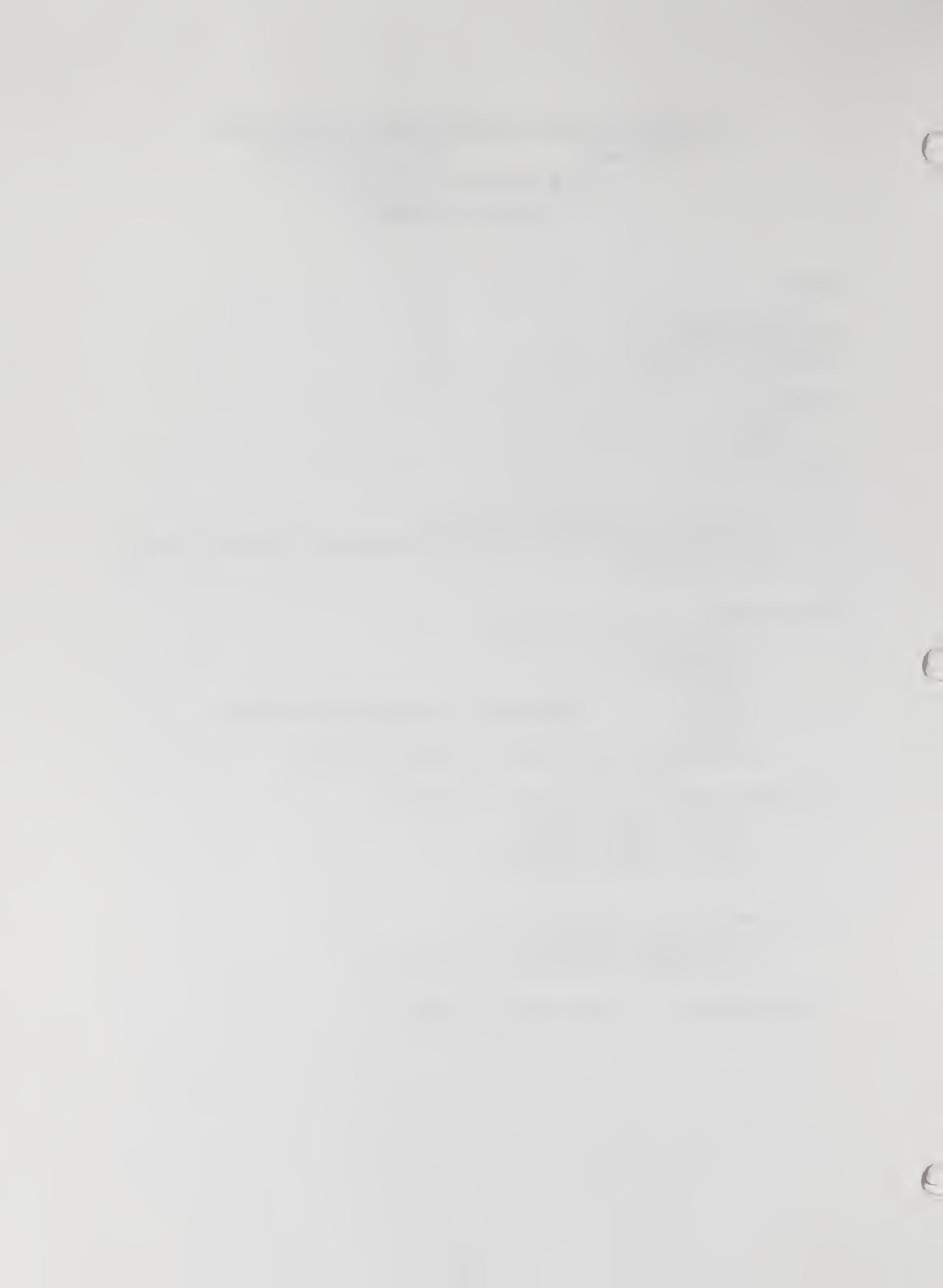
I would like to serve on the Safe Skin Advisory Board

- I am a town parent
- I am a town grandparent
- I am a caretaker of children

I would like to serve on your Action Team

- at an upcoming event
- at my place of business in some other way

I will contribute \$\_\_\_\_\_ to the Safe Skin Project



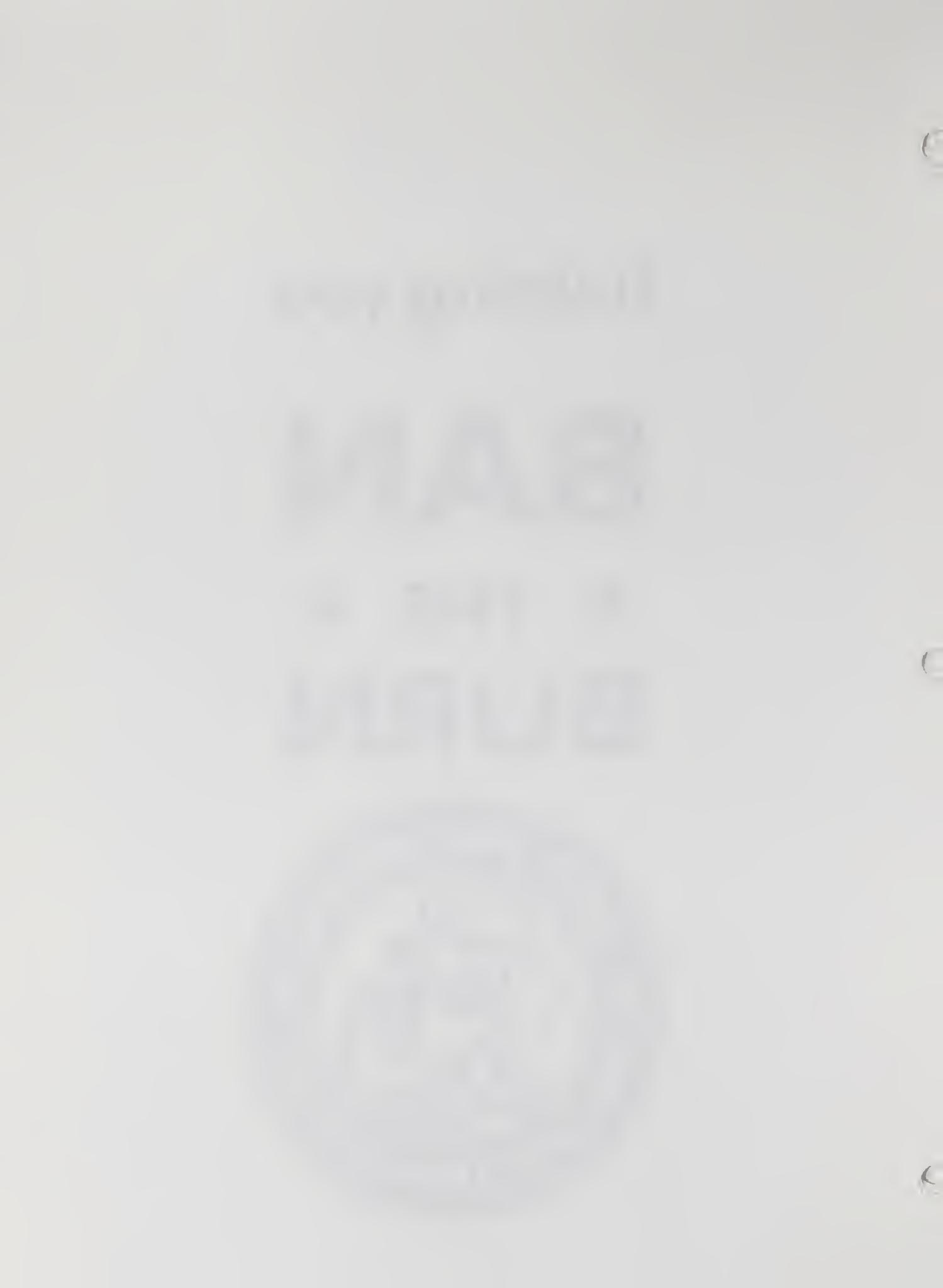
Helping you

**BAN**

\* THE \*

**BURN**





## Health Clubs

Health clubs are a great place to implement the Safe Skin Project. Members belong to the club because they are concerned with health and well being. Some are outdoor enthusiasts, these members should be aware of the dangers of the sun.

Discuss the possibility of bringing the Project into the club's youth programs. Focus on tennis lessons, swimming lessons, and child care services. Use the Training section to train instructors and staff on Safe Skin behaviors.

Ask the club management to provide a place for posters and tip sheets. Perhaps a bulletin board reminding members to protect themselves and their children would be appropriate in the club house or lobby.



## Health Professionals

Health professionals within the community are excellent assets to the committee. Doctors should be invited to participate in the project. Some have more experience with skin cancer than others. Ask dermatologists and pediatricians to take a special interest in the program. Many are parents of the children the project will target.

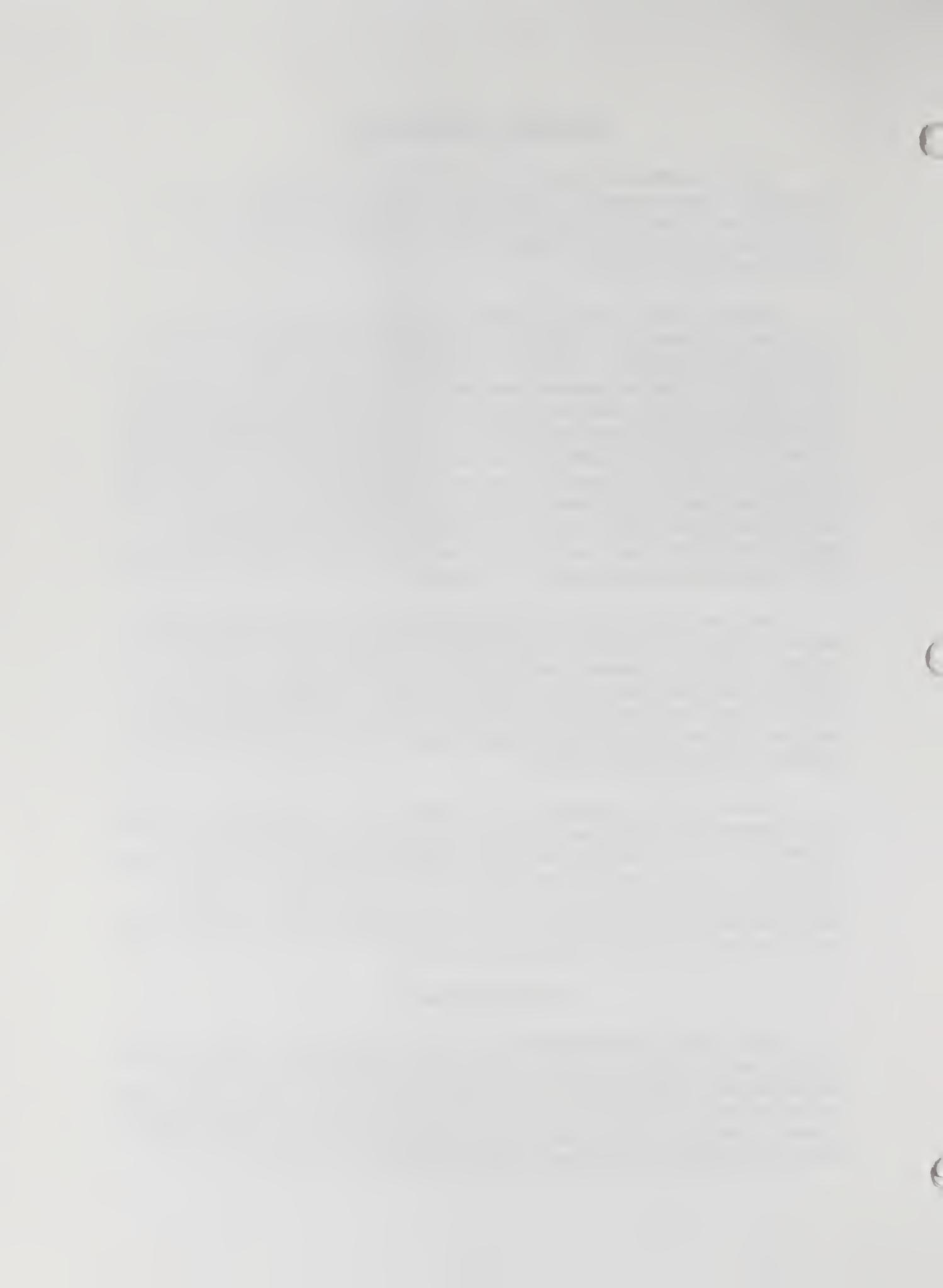
Discuss with the health care professionals the importance of skin cancer prevention and detection for their patients. Suggest that they advise their patients of the importance of safe sun practices and early detection. At their first visit, pediatricians should educate new moms on the importance of protecting their children. Create guidelines of what should be discussed with each patient. (See the sample at the end of this section.) Ask them to display posters and tip sheets. The American Academy of Dermatology, the American Cancer Society, and the Skin Cancer Foundation have posters and pamphlets at a small charge. The Massachusetts Department of Public Health has free tip sheets available. Sun protection information should be available at various medical offices, physical therapists offices, dental offices, and other health related businesses. A list of helpful pamphlets is located in this section.

Discover which health care professionals have a special interest in skin cancer. Approach them about writing articles for the local paper. (See the articles in the Media section.) Articles are helpful at the start of the project and during the late spring and summer months. Articles should be written around school vacation times to remind parents of the sun's harmful effects during ski and sun vacations. Remind the doctors that this is great way to increase their exposure and expand their practice.

Approach dermatologists to donate some time to conduct free screenings and possible educational presentations to schools, civic organizations and similar groups. Screening can also target different segments of the population at different times of the year. For example, plan recreation department staff screenings at the beginning of the summer and again during the postseason. Call the American Cancer Society for more information on free screenings. They hold their screening during May, Melanoma Month.

## Patient Education

Many medical professionals have already received skin cancer education. However, you need to urge them to relay that knowledge to their patients. Dermatologists, pediatricians, general practitioners, and internists must work with families in the community to reinforce the Safe Skin message. Doctors should screen patients for cancerous and precancerous growths during the visit and educate the patients on prevention and detection of skin cancer.



Pediatricians can educate children and parents regarding the importance of protecting children early in life to prevent skin cancers later in life. Parents are usually more concerned with protecting their children than themselves but hopefully, they take protective measures for themselves in the process of protecting their children. Pediatricians should review the ABC'S of sun protection with children and parents.

To follow the ABC'S of sun protection: Stay **AWAY** from the sun during the peak hours at mid day, **BLOCK** the sun's rays by applying sunscreen throughout the day, **COVER** up with hats, sunglasses, long-sleeve shirts, and long pants when outdoors, and finally, seek **SHADE** during peak sun hours. Following these simple rules can lower your risk of developing skin cancer.

General practitioners and internists should continue the education by providing screenings for patients during annual visits. Gentle reminders to use sunscreen when on vacation or outside and instructions on how to conduct self exams should be given. Pamphlets depicting the ABCD's of moles (asymmetry, border irregularity, color, and diameter) should be available for patient distribution. The American Academy of Dermatology has a pamphlet *Skin Cancer: An Undeclared Epidemic* and a melanoma self exam tip sheet that includes the ABCD rule and steps to conduct a self exam. Patients should be reminded every year to protect themselves in order to avoid problems later in life. Ask doctors to use the Safe Skin Guidelines and Pamphlets in this section to discuss sun protection and detection with their patients.

Teenagers and young adults are a difficult group to target. An excellent way to reach them is to show them actual pictures of different kinds of skin cancers and other sun related skin problems. Many teenagers are very concerned with appearances, this will get their attention. A possible strategy is to explain and show the damage the sun can cause from a vanity standpoint. At their age they think nothing will hurt them. They are more willing to listen to warnings that prevent ugliness rather than cancer. If a doctor can show them what they will look like in the future with the wrinkles and sun spots they will accumulate throughout their lives perhaps they will take precautions to prevent this photo-aging and skin cancer.

The American Cancer Society has a device called a Dermascans which shows the accumulated sun damage on the face when the face is placed in the light. This can be a scary sight for some but it is very effective in showing the damage already done and the necessity of taking steps to prevent further damage. Call your local American Cancer Society (800-ACS-2345) for details on borrowing the Dermascans light.



## Helpful Pamphlets for Parents

**American Academy of Dermatology** 847-330-0230

*The Darker Side of Tanning*

*Kids! Use Your ABC'S for Safe Fun in the Sun*

*Skin Cancer: The Undeclared Epidemic*

*Stop! Look at the Danger Signs*

*Ultraviolet Index: What You Need to know*

**American Cancer Society** 800-ACS-2345

*Facts on Skin Cancer, 1988*

*Why You Should Know About Melanoma, 1985*

*You Can Get A Lot More From the Sun than Just Light, 1997*

**Environmental Protection Agency** 800-296-1996

*Ultraviolet Index: What You Need to Know, 1995*

**Massachusetts Department of Public Health** 617-624-5070

*Tips on Sun Protection for Infants*

*Tips on Sun Protection for Preschoolers*

*Tips on Sun Protection for Youths*

**The Skin Cancer Foundation** 212-725-5176

*Sunproofing Your Baby, 1992*



## Safe Skin Guidelines

Prevention and detection. Skin cancer is preventable.

### Prevention:

Know your ABC'S when you're outside in the sun.

- A- Stay **AWAY** from the sun during the peak hours of 10AM and 4PM.
- B- **BLOCK** the sun with sunscreen and sunblock of SPF 15 or higher.
- C- **COVER** up with long-sleeve shirts, pants, hats, and sunglasses.
- S- Seek **SHADE**. Control the amount of time spent outdoors.

### Sunscreen use:

- Sunscreens come in two kinds, those that block the sun and those that absorb the sun.
- Sunscreens and sunblocks should have an SPF of 15 or higher.
- Look for sunscreens that say *broad spectrum* which protects against both UVA and UVB rays.
- Remember to put sunscreen on 20 minutes before going outside for greater absorption.
- Rub it in well on all areas exposed to the sun. Remember ears, hands, feet, and scalp.
- Reapply every two hours, more frequently if swimming or sweating.
- Waterproof sunscreens last 80 minutes in water.
- Water-resistant sunscreens last 40 minutes in water.
- Use sunscreen year-round.

### Detection:

- Medical examinations should be conducted annual visits.
- Self exams should be done once a month with the help of a mirror.
  1. Exam body front and back in a mirror.
  2. Turn to the left and right side with arms raised.
  3. Look at forearms, upper arms, underarms, hands, and palms.
  4. Examine backs of legs, feet, between toes, and soles of feet.
  5. Examine the back of the neck and scalp with a mirror.
  6. Part hair and examine scalp.
  7. Check back and buttocks with mirror.



## Hospitals

If there is a hospital or health care center in the community, one of the first contacts you should make is with that health care facility. Gain the support of representatives from the maternity unit, the pediatric unit, and the dermatologists through a visit to the hospital.

When approaching the hospital to get involved in the project, it is important to gain the support of the staff, nurses, doctors, and health educators. Discuss the ways in which they advise their patients on sun exposure. Create some excitement about your project. You will find the program will be accepted if these people feel they have made the decision rather than the administration forcing it on them. Once you have gained their support set up an appointment with the hospital administration. Ask representatives from the different departments to attend the meeting to show their support. Once again cite the statistics in your area and the goal of the project to reduce skin cancer. (See the Skin Cancer Facts section and use the overheads provided at the end of the handbook.) Explain that through a joint effort of the maternity unit, pediatricians, and educators the hospital can reach many segments the community with the "ban the burn" message.

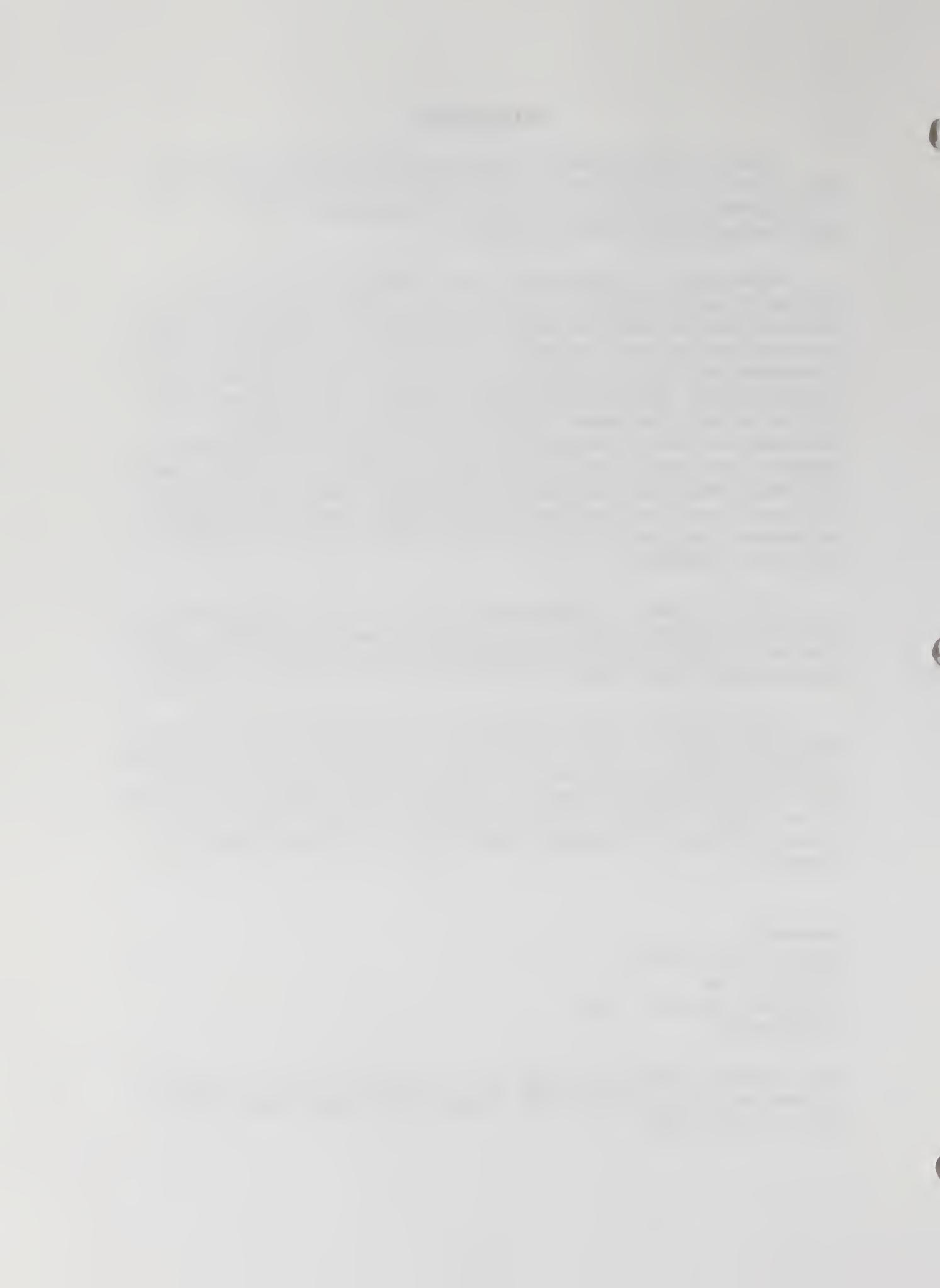
Once the project has been accepted, set up training sessions with the hospital staff. Ask the doctors and nurses to make sure their patients are given information on sun protection. (See Health Professionals section.) Together with the hospital staff decide on the information to be given out at your hospital.

For the maternity unit and educators recommend the Sun Safe Training Handbook and video. Explain the New Mom's Project which began in Falmouth. It educates mothers of newborns during their stay at the hospital. A Safe Skin lesson during the bathing lesson was an extremely effective means of education for the mother. For copies of the handbook and video call the Skin Cancer Prevention Program at the Massachusetts Department of Public Health at 617-624-5070.

### Resources:

American Cancer Society  
30 Speen Street  
Framingham, MA 01701-1800  
800-ACS-2345

*Start Sun Smart: A Resource Guide for Sun Protection Education in Newborn Nurseries and Training Video.* 1998. Massachusetts Department of Public Health. 617-624-5070.





## **Tips from SunSpot the Do-Right Dog for Parents of Newborns**

- Keep infants and young children out of the sun as much as possible during the first year of life.
- A bad burn in a small infant can be very serious.
- Cover up your baby's supersensitive skin with a sun hat, long-sleeved shirt and long pants. For a newborn, a carriage with a hood is preferable to an upright stroller. With an infant or toddler, use a canopy stroller or get an attachment.
- Beware of surfaces that reflect the sun. Sand, snow, concrete and water can reflect as much as half the sun's rays onto your child's skin. Merely sitting in the shade or under an umbrella does not guarantee protection. You still need to cover-up with protective clothing. Be especially cautious of your infant's unprotected face.
- Begin using sunscreen at six months of age and limit sun exposure. Choose a waterproof product that is moisturizing (not alcohol-based) and has a sun protection factor (SPF) of 15 or higher.
- Cover up on cloudy days. The sun's rays can be as strong on cloudy, hazy days as they are on sunny days.
- Set the example – don't forget to cover up and use sunscreen yourself. If you use these simple measures your child is likely to adopt good sun care habits.



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## About Skin Cancer

- Skin cancer is the most common of all cancers.
- One in every six Americans develops skin cancer at some point in life.
- Sun exposure causes at least 90% of all skin cancers.
- Most of a person's lifetime sun exposure occurs before the age of 18.
- Skin cancer is almost completely curable when treated in its earliest stages.
- **The good news is that almost all skin cancers are preventable by practicing Sun Safety throughout childhood!**

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## For More Information

Massachusetts Department of Public Health  
Bureau of Family and Community Health  
17-624-5448



The Safe Skin Project  
A Project of the Massachusetts Department of Public Health

## For More Information

Massachusetts Department of Public Health  
Bureau of Family and Community Health  
617-624-5448



The Safe Skin Project  
A Project of the Massachusetts Department of Public Health



## Training

The following guidelines can be used for training organization heads, supervisors, and staff on sun protection and prevention of skin cancer. This knowledge will be helpful in training their own staff in the future. Bring pamphlets and tip sheets for trainees to read (see training materials). Perhaps inviting someone from the Safe Skin Committee to speak at a meeting will be helpful. The goal of the Safe Skin Project however, is to implement the program so it eventually stands on its own. Discuss incorporating the Safe Skin Project into the handbook and regulations of the organization. Your contact person should eventually be able to train the staff on his own.

When discussing these points, try to modify them to fit the organization. When talking to the head of a department, preschool, daycare center, or other organization, try to suggest specific ways to incorporate Safe Skin education into their program. Discuss the available resources and the setting in which the organization exists. The background information on skin cancer will be the same for all (use the information in the Skin Cancer Facts section and the overheads at the end of the handbook), but variables such as available shade, sunblock use, regulations, and requirements will be specific to each organization. For example, permission slips must be signed by the parent or guardian to permit sunscreen applications by an organization working with children. Include ideas to keep the staff protected from the sun also. These things must be discussed in order to prepare the organization with the proper protocol to add the Safe Skin Project to their program. Schools might stress education while the recreation department stresses practical prevention. Remember to focus on the importance and ease of the Project's implementation. Show them simple ways to make progress.

Before you begin, analyze the audience you are addressing. Keep in mind their occupations and ages. Young people working with children, for example, counselors and lifeguards, are excellent role models. Care should be taken to gain their enthusiasm in the project. Let them offer different ways in which they can implement Safe Skin practices. This will give them a sense of ownership of the program and a better chance of its success. Young adults are an important group to target because of their ability to reach many children through their summer recreation jobs. An excellent tool to use to educate them is the video, *Tan Lines* developed by Project S.A.F.E.T.Y. at the University of Texas MD Anderson Cancer Center. It is included in the school curriculum package. This video addresses younger people and the risk they have for developing skin cancer and photo-aging. Also, ask someone to whom they can relate (perhaps a retired lifeguard with skin cancer or sun damage) to create awareness that skin cancer, later in life, is a serious issue for people their age, especially with an outdoor occupation. This person might be able to show how their sun exposure 10 or 20 years ago effects them today.



## Points to Discuss with Preschool, Child Care and Camp Staff:

The overhead projections provided at the end of this handbook can be used in the training presentations.

- Explain the goals of the Safe Skin Program and that sunburns and sun damage prevented early in life lead to a reduction of skin cancer in later years. Because they are the primary caretakers of children for many of the daylight hours, the responsibility of sun protection falls on their shoulders. They have the ability to reach parents and children and create Safe Skin habits.
- Show the video *Tanlines*. It is very helpful in training young adults.
- Discuss the benefits of the sun and the enjoyment of the outdoors.
- Explain that the sun has two types of radiation that damage the skin and eyes. UVB rays are known as the sun's burning rays but there are also UVA rays. These rays not the "burning rays" but do penetrate into the inner layers of the skin causing aging and wrinkles. Some studies have found that UVA rays also lead to skin cancer. These are the rays used in tanning beds and tanning lamps. Excess amounts of both types of ultraviolet light cause skin damage and skin cancer.
- Describe the three types of skin cancer: basal cell, which develops most frequently on the face, ears, and neck, is easily curable and does not spread; squamous cell, which usually occurs on the ears, face, and lips mostly, is highly curable if detected early; and melanoma, which can spread to other areas of the body and become deadly. If detected early however, all forms of skin cancer are treatable.
- Evaluate the risk factors that include: fair skin tone and eyes, first degree relative with skin cancer, living in high or low elevations, lack of sunscreen use as a child, and sunburns early in life.
- Protect the skin by using sunblocks or sunscreens. Sunblocks are thick and opaque. They don't allow light to pass through and can stay on the skin for a prolonged period of time. Sunscreens keep the sun's rays from penetrating with chemicals that are rubbed into the skin. They should be applied 30 minutes before going out in the sun. Year-around use of SPF 15 is recommended. The number SPF denotes how many times longer someone can stay outside with sunscreen. For example, if an unprotected person usually burns after 10 minutes, with SPF 15 sunscreen he can stay out 15 times longer- 150 minutes before getting burned. Sunscreen should be applied every 2 hours and more often if swimming. Waterproof and rubproof sunblocks are available but should still be reapplied after swimming or



sweating. Even so-called all day sunscreen should be reapplied every two hours. Look for broad spectrum sunblock and sunscreen to protect from UVA and UVB rays.

- Discuss the easiest and most productive way to institute sun safety. Follow the ABC'S:
  - A**- stay AWAY from the sun during peak hours 10am-4pm
  - B**- BLOCK the sun with sunscreen
  - C**- COVER up with hats, sunglasses, long pants and shirts
  - S**- seek SHADE

### **ABC'S to Consider for Preschools, Child Care Centers, and Camps**

#### **Stay Away from the sun:**

Arrange the schedule so that the children and staff won't be out in peak sunlight (10AM- 4PM) -- schedule recesses in the mornings and afternoons.

Check the UV index in the newspaper or during the weather report each day to find the strength of the sun. Modify activities accordingly.

#### **Block the sun:**

Create a Safe Skin Policy with guidelines detailing sunscreen application prior to arrival and sunscreen breaks every few hours. Include details outlining who provides the sunscreen, the organization or the parent, and steps taken if sunscreen is not available.

Send home sunscreen permission forms for parents and guardians- ask them to provide bottles for their child.

#### **Cover up:**

Require children to come prepared with hats, sunglasses, and clothing to protect them from the sun during outside activities.

Provide uniforms for staff with hats and long-sleeve shirts.

#### **Seek Shade:**

Create a shaded place for children to play.

Consider umbrella, cabanas, portable dugouts and other man made shades.

Plant trees around area.

Take sunscreen breaks to reapply sunscreen.

- Discuss First Aid

**Mild Sunburn-** apply cool towels and over the counter medications

**Blistering Sunburns-** seek medical attention (especially with children), apply cool towels and aspirin to reduce pain and swelling, encourage person to drink fluids, do not break blisters and keep area covered while in the sun until burn heals. Extreme burns can cause fever, nausea, and headaches



**Sun stroke-** a breakdown of the body's cooling system.

*Symptoms-* body temperature over 104 degrees, hot, red, dry skin, loss of consciousness

*Treatment-* seek medical attention, remove from heat, wrap victim in cool, wet towels, fan, and spray with water. Place small child in 2-3 inches of COOL water and gentle splash and wipe skin. Do not shock the system by using an ice bath. The body temperature must be brought down slowly. DO NOT ADMINISTER FLUIDS. Monitor breathing.

**Heat exhaustion-** weakness and collapse due to heat, associated with lack of fluid replenishment

*Symptoms-* cold, clammy skin, approximately normal body temperature, profuse perspiration, fatigue, weakness, headache, nausea, dizziness, and fainting

*Treatment-* remove from heat, have victim lie down, raise feet, loosen clothing, apply wet cloths, and fan. Give victim sips of salt water (1 teaspoon per glass, every 15 minutes)

**Heat cramps-** *Symptoms-* stomach or leg cramps.

*Treatment-* Move to a cooler place, give drinks of water every 15 minutes and rest

- Dehydration can also be a factor when outdoors on hot, sunny days. Make sure children and staff drink enough fluids to stay hydrated. Water and juices are best. Soda, especially with caffeine, dehydrates even more.
- Discuss the children's outdoor games and activities, their schedule, and in what kind of environment they hold activities. Tour the playground if possible and create a shade map of the area.
- Devise a plan of action to provide more shade in the playground if necessary.
- Discuss ways to move activities that are held in direct sunlight into the shade.
- Discuss sunscreen applications with the staff. Will the policy be to apply sunscreen with gloves or wash hands between the application of each child?
- Remind staff to remember to apply sunscreen to ears, hair parts, back of neck, feet, and hands. The staff should also monitor children for any kind of sunburn or reaction to sunscreen.
- See Preschool and Daycare section for games and activities. Discuss ideas for other activities specific to the program.



## Points to Discuss with Lifeguards and Coaches:

The overhead projections at the end of this handbook can be used in the training presentations.

- Explain the goals of the Safe Skin Program and that sunburns and sun damage prevented early in life can lead to a reduction of skin cancer in later years. Lifeguards and coaches have a tremendous impact on children in relation to the limited time spent one on one. Lifeguards and coaches are role models for children. Lifeguards are watched all day during work. Children emulate lifeguards. When lifeguards wear sunblock, children wear sunblock. The same is true for coaches. At the beginning of swimming lessons, team practice, or a game, instruct children to put on sunscreen. Take the time to ask who is wearing sunscreen. Devise a way to praise children who remember to wear their sunscreen. Incentives like temporary tattoos work well.
- Show the video *Tanlines*. It is very helpful in training young adults.
- Discuss the benefits of the sun and the enjoyment of the outdoors.
- Explain that the sun has two types of radiation that damage the skin and eyes. UVB rays are known as the sun's burning rays but there are also UVA rays. These rays not the "burning rays" but do penetrate into the inner layers of the skin causing aging and wrinkles. Some studies have found that UVA rays also lead to skin cancer. These are the rays used in tanning beds and tanning lamps. Excess amounts of both types of ultraviolet light cause skin damage and skin cancer.
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- Evaluate the risk factors: fair skin tone and eyes, first degree relative with skin cancer, living in high or low elevations, lack of sunscreen use as a child, and sunburns early in life.
- Protect the skin with sunblocks or sunscreens. Sunblocks are thick and opaque. They don't allow light to pass through and can stay on the skin for a prolonged period of time. Sunscreens keep the sun's rays from penetrating through the use of chemicals that are rubbed into the skin. They should be applied 30 minutes before going out in the sun. Year-around use of SPF 15 is recommended. The number SPF denotes how many times longer



someone can stay outside with sunscreen. For example, if an unprotected person usually burns after 10 minutes, with SPF 15 sunscreen he can stay out 15 times longer -- 150 minutes before burning. Sunscreen should be applied every 2 hours and more often if swimming. Waterproof and rubproof sunblocks are available but should still be reapplied after swimming or sweating. Even so-called all day sunscreen should be reapplied every two hours. Look for broad spectrum sunblock and sunscreen to protect from UVA and UVB rays.

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  - S**- seek SHADE

### **ABC'S to Consider for Each Organization**

#### **Stay Away from the sun:**

Arrange the schedule so that the children and staff won't be out in peak sunlight (10AM-4PM) -- hold swimming lessons and practices in the mornings and afternoons.

Check the UV index in the newspaper or during the weather report each day to determine the strength of the sun. Modify activities accordingly.

#### **Block the sun:**

Create a Safe Skin Policy with guidelines detailing sunscreen application prior to arrival.

Hold parents responsible for sunscreen application before the start of the session.

#### **Cover up:**

Require children to come prepared with hats, sunglasses, and clothing to protect them from the sun during outside activities.

Wear hats, sunglasses, and long sleeve shirts to protect yourself and be a good role model

#### **Seek Shade:**

Create a shaded place for children to play.

Consider umbrellas, cabanas, portable dugouts and other man made shades. Plant trees around area.

Take sunscreen breaks to reapply sunscreen.

- Discuss First Aid

**Mild Sunburn**- apply cool towels and over the counter medications



**Blistering Sunburns-** seek medical attention (especially with children), apply cool towels and aspirin to reduce pain and swelling, encourage person to drink fluids, do not break blisters and keep area covered while in the sun until burn heals. Extreme burns can cause fever, nausea, and headaches

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**Heat cramps-** *Symptoms-* stomach or leg cramps.

*Treatment-* Move to a cooler place, give drinks of water every 15 minutes and rest

- Dehydration can also be a factor when outdoors on hot, sunny days. Make sure children and staff drink enough fluids to stay hydrated. Water and juices are best. Soda, especially with caffeine, dehydrates even more.
- Tour the pool or play area if possible and create a shade map of the area.
- Devise a plan of action to provide more shade if necessary.
- Discuss ways to move activities that are held in direct sunlight into the shade.
- Recommend that the staff should monitor children for any kind of sunburn or reaction to sunscreen during swimming lessons, practices, etc.
- Recommend daily reminders about the importance of sunscreen use and ask them to apply their own sunscreen in the children's presence.
- Modify games played before entering the water to include a Safe Skin message-- "Duck, Duck, Goose" can become "Sunscreen, Sunscreen, Sunburn" or create a modified version of "Red Light, Green Light", "Sunburn, Sunscreen".



- Display the UV Index at the headquarters next to a posted water temperature.
- Make tip sheets and pamphlets available for distribution.

### **Resources:**

Project S.A.F.E.T.Y. module  
Science curriculum with *Tanlines* video  
MD Anderson Cancer Center.  
1515 Holcombe Boulevard, Box 240  
Houston, TX 77030  
713-745-1205



**Master Copies for  
Overhead Projections  
to be used during training**



# Ban the Burn



80% of lifetime sun exposure occurs before the age of 18

Regular use of a sunscreen with SPF 15 during these years can reduce the incidence of skin cancer by 78%



One blistering sunburn before the age of 20 may more than double a person's risk for developing melanoma, the deadliest form of skin cancer

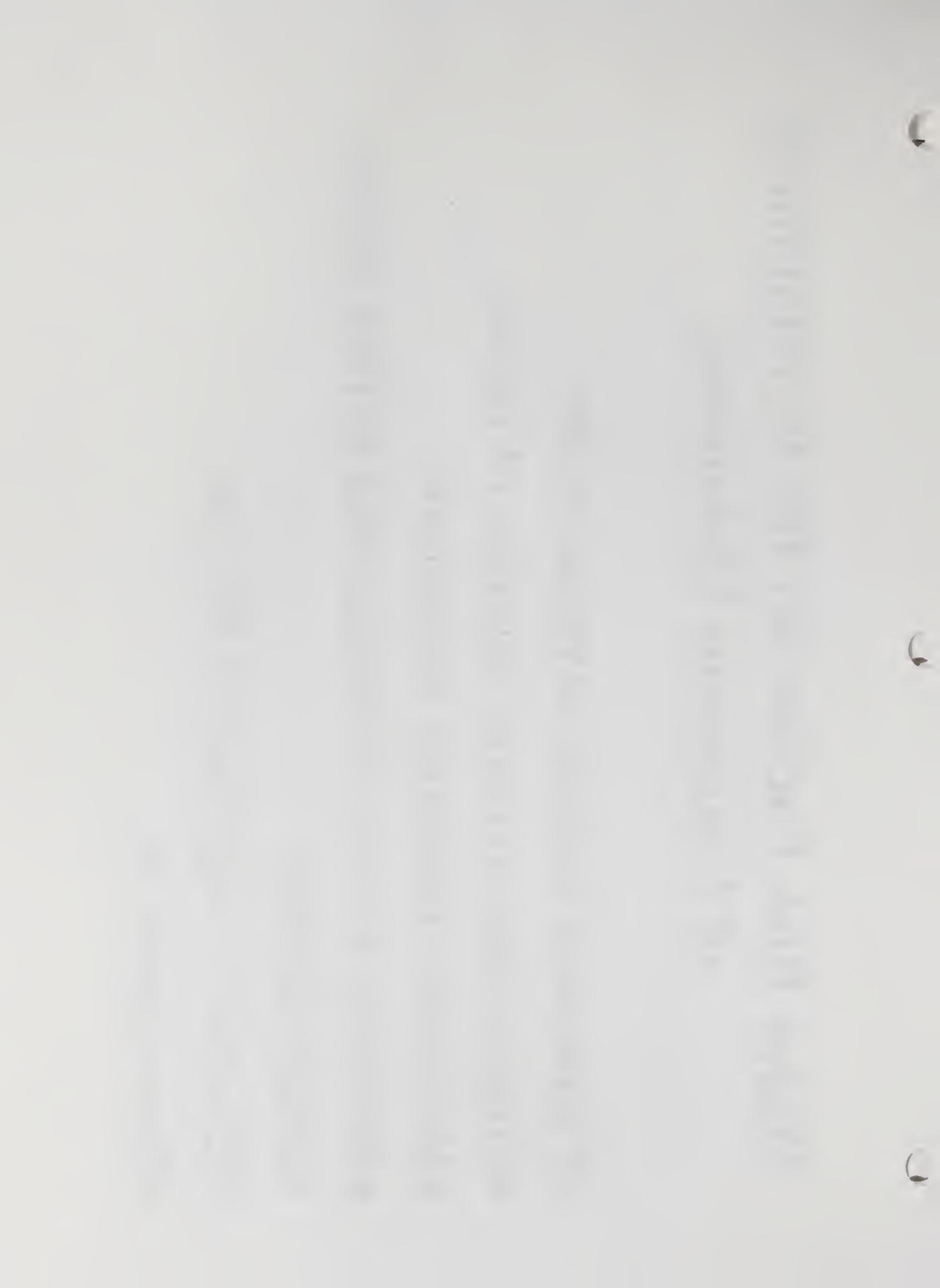
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# Major Risk Factors for the Development of Cutaneous Melanoma

- Pigmented lesions- atypical moles
- Higher than average number of moles
- Previous cutaneous melanoma
- Previous history of melanoma in first-degree family member
- Excessive exposure to the sun
- Sun sensitivity



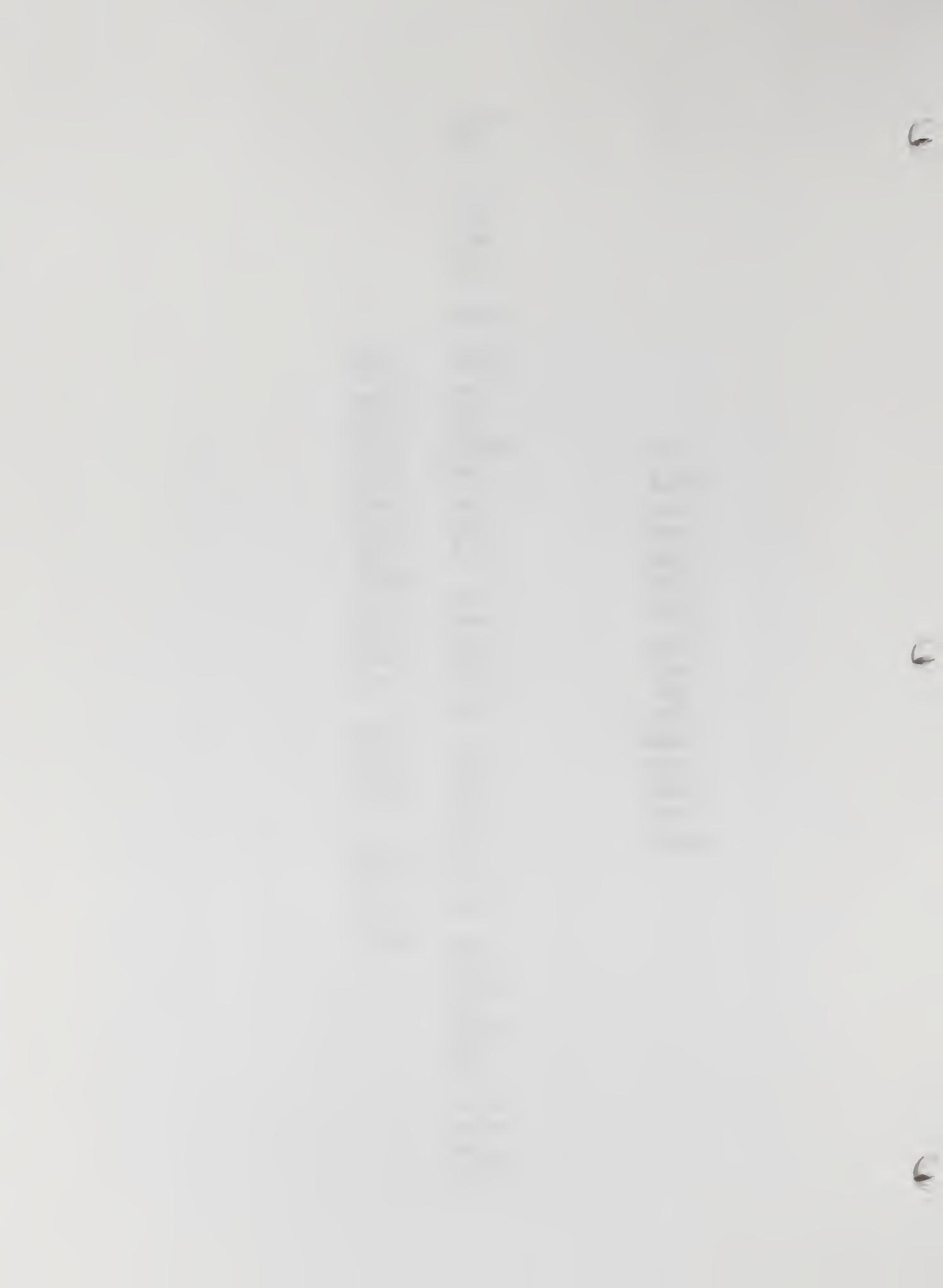
# Major Risk Factors for the Development of Squamous and Basal Cell Skin Cancer

- Red/auburn hair
- Cumulative exposure to the sun
- Ability to tan
- Age (60 or older)
- Fair complexion
- Outdoor activity > 6 hours a day
- Family and personal history of skin cancer



# Important:

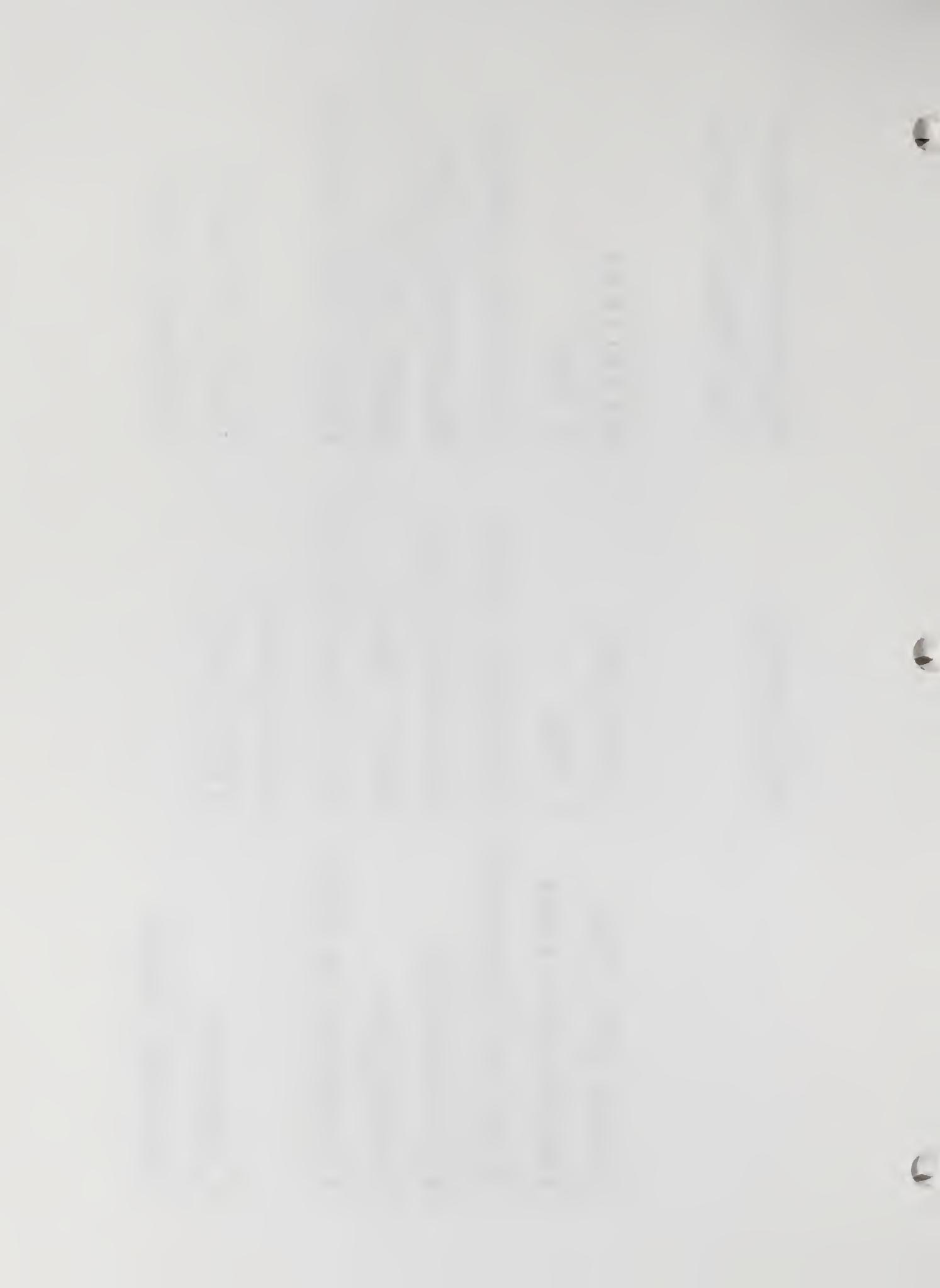
All skin types (fair to dark) are at risk for melanoma



## Melanoma

## Squamous/Basal Cell Skin Cancer

Cases per year	4,000,000	9,000,000
Deaths per year	7,300	2,100
Type of exposure	Generally acute	Generally chronic
Preventative Strategies	Sunscreen, hats, shirts, shade	Sunscreen, hats, shirts, shade
Location on skin	Sun exposed and non exposed	Head, neck, hands
Common warning signs	ABCD rule	Scaly, bleeding, scabbing sores



# ABCD Rule for Melanoma

- Asymmetry
- Border irregularity
- Color change
- Diameter greater than 6mm (the size of a pencil eraser)



# Ultraviolet Index

Predicts Ultraviolet Radiation Levels on a 0-10+ scale

## Index Number

## Exposure Level

0 to 2

3 to 4

5 to 6

7 to 9

10+

Minimal

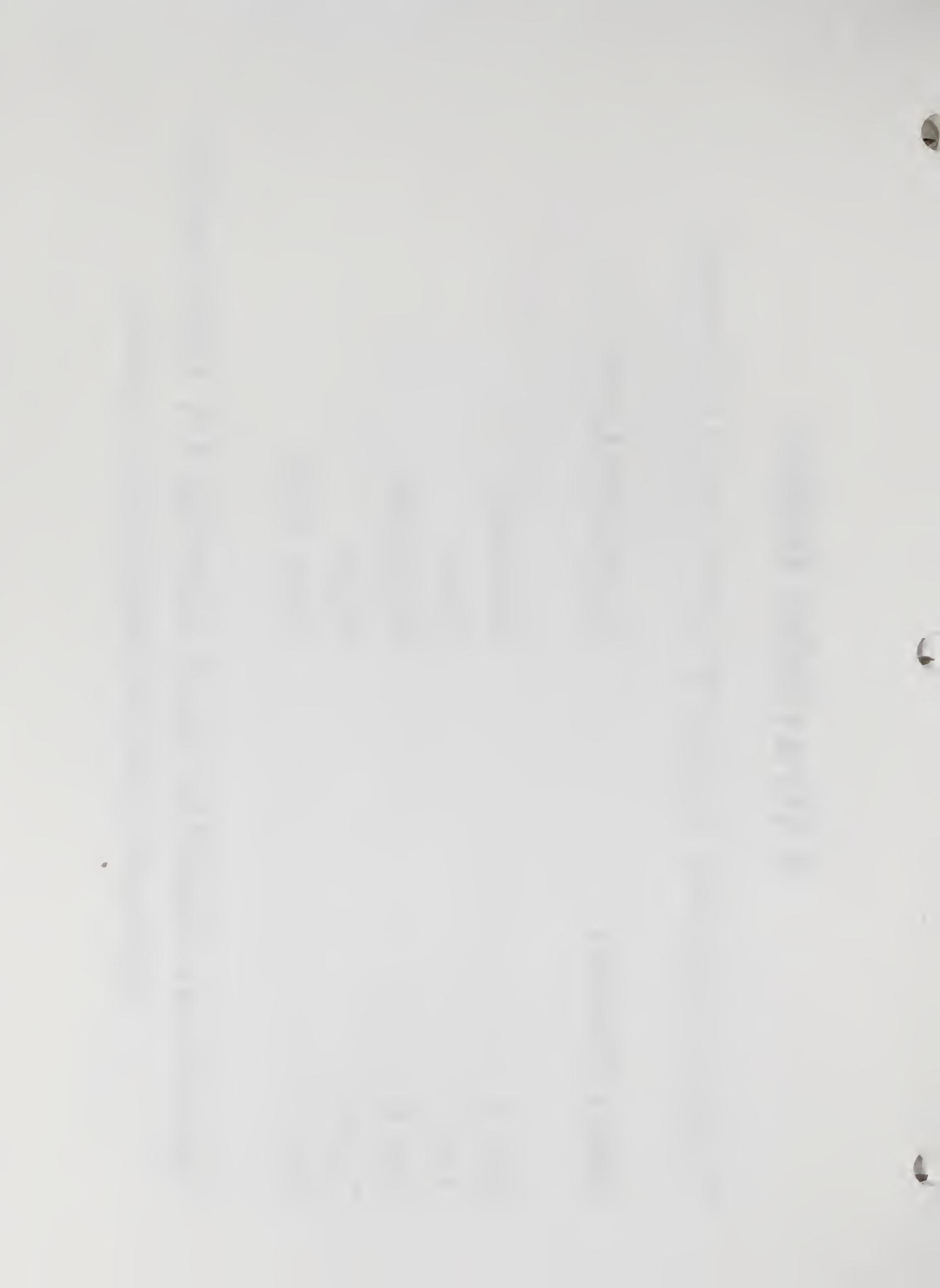
Low

Moderate

High

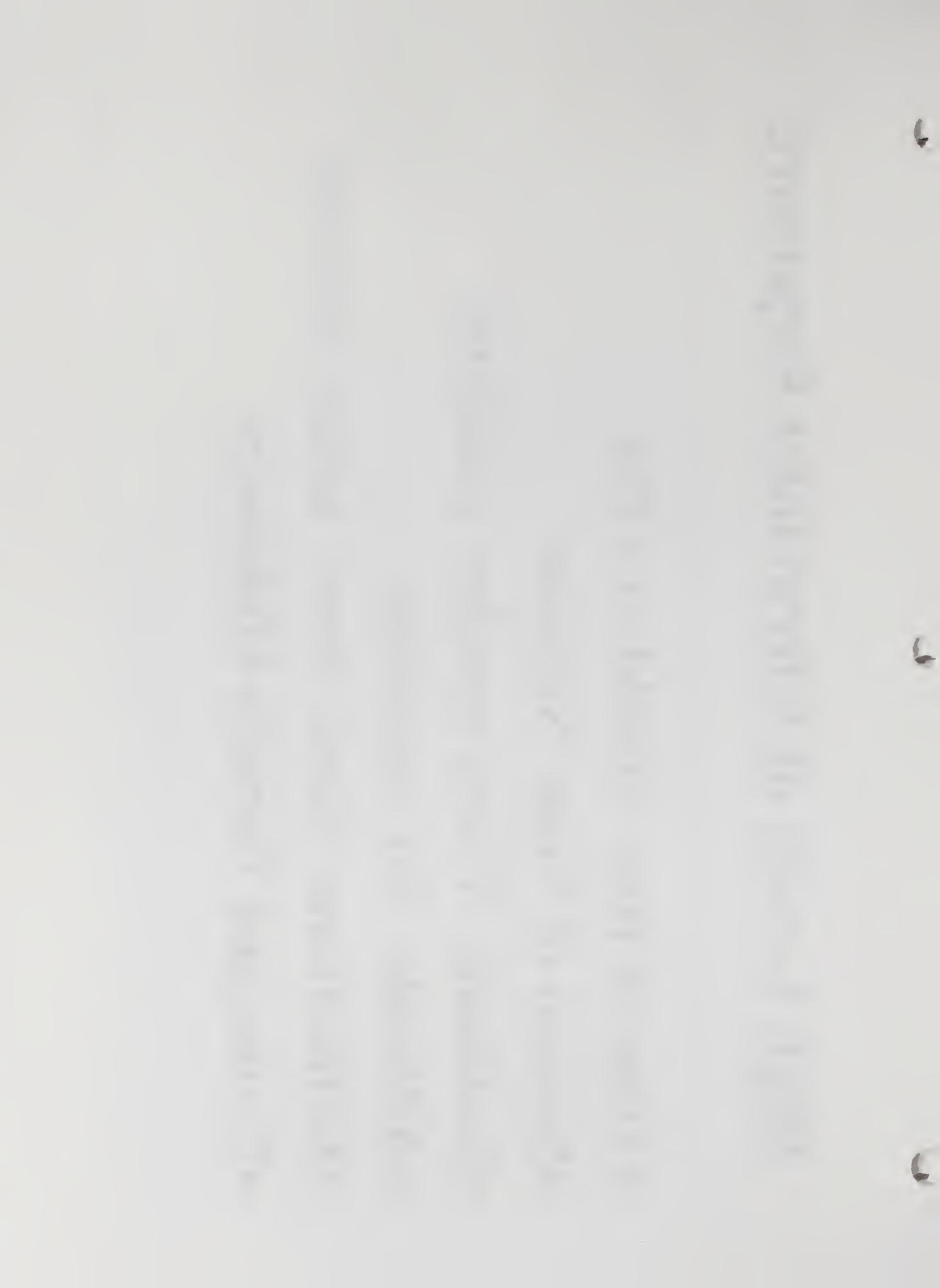
Very High

Special care should be taken when the UV Index predicts exposure levels of moderate or above.



# High Levels of Ultraviolet Exposure

- Time of Day- 10AM to 4 PM
- Season of Year- Summer
- Latitude- Warm weather vacations
- Altitude- Ski vacations
- Reflections- Sand, snow, water, concrete
- Prolonged Periods Outdoors



## ABC'S of Sun Protection

- A** -Stay away from the sun
- B** - Block the sun- Use sunscreen on children  
older than 6 months
- C** - Cover up- Wear longsleeve shirts, hats,  
sunglasses
- S** - Seek shade- but be careful of reflections



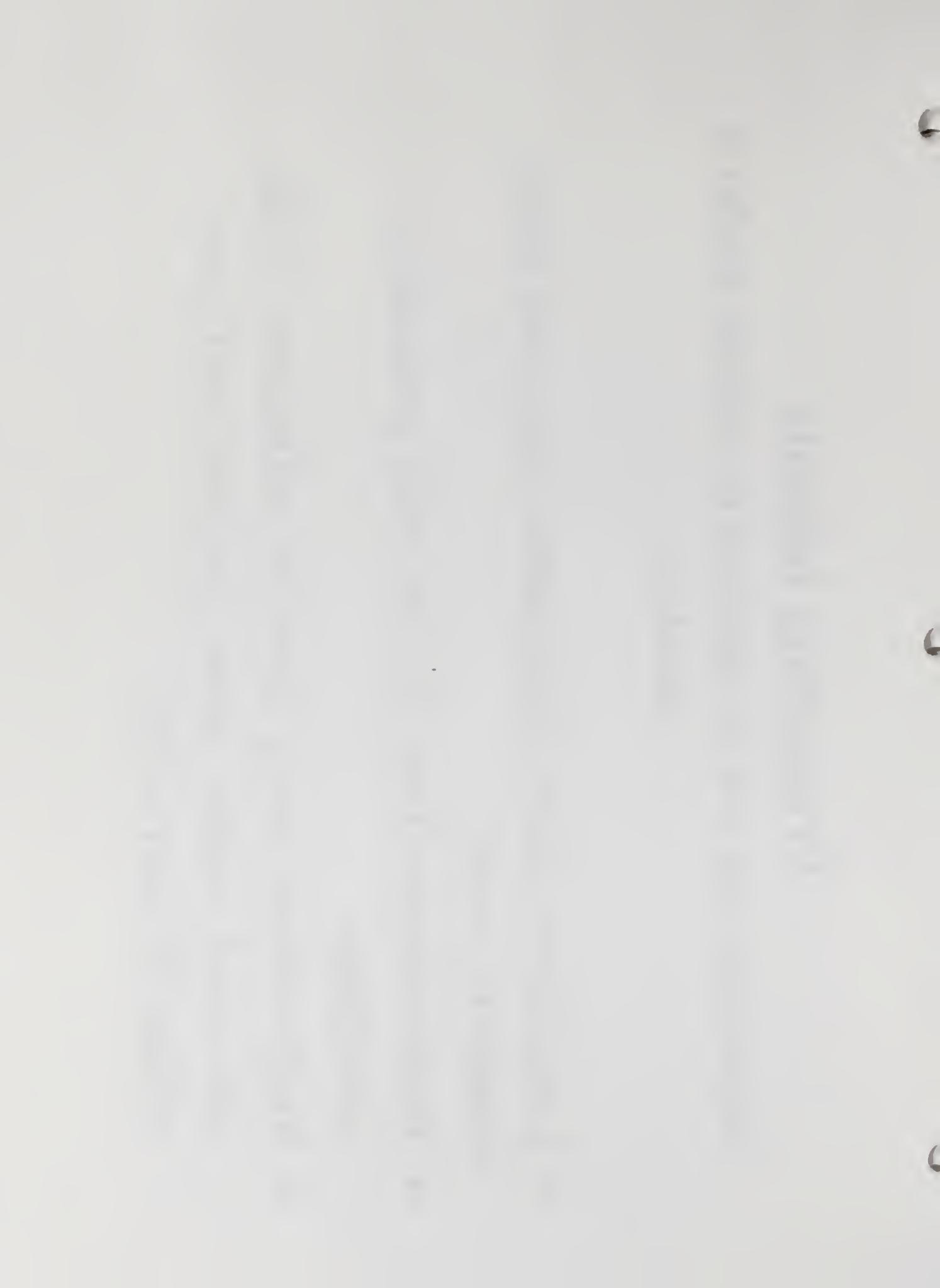
Limit sun exposure during peak sun time: 10AM to 4PM



## Protecting Infants

Sunscreen can not be applied to infants under 6 months

- Longsleeve shirts, long pants, hats, and shoes should be worn
- Shade infants from the sun with protective coverings
- Angle infants away from the reflection of the sun- sand, water, snow, concrete and grass reflect the sun's rays



## Materials and Resources

### Tip Sheets

Massachusetts Department of Public Health  
250 Washington Street, 4th floor  
Boston, MA 02108-4619  
617-624-5070

### Pamphlets and Posters

American Academy of Dermatology  
930 North Meachum Road  
P.O. Box 4014  
Schaumburg, IL 60168-4014  
847-330-0230

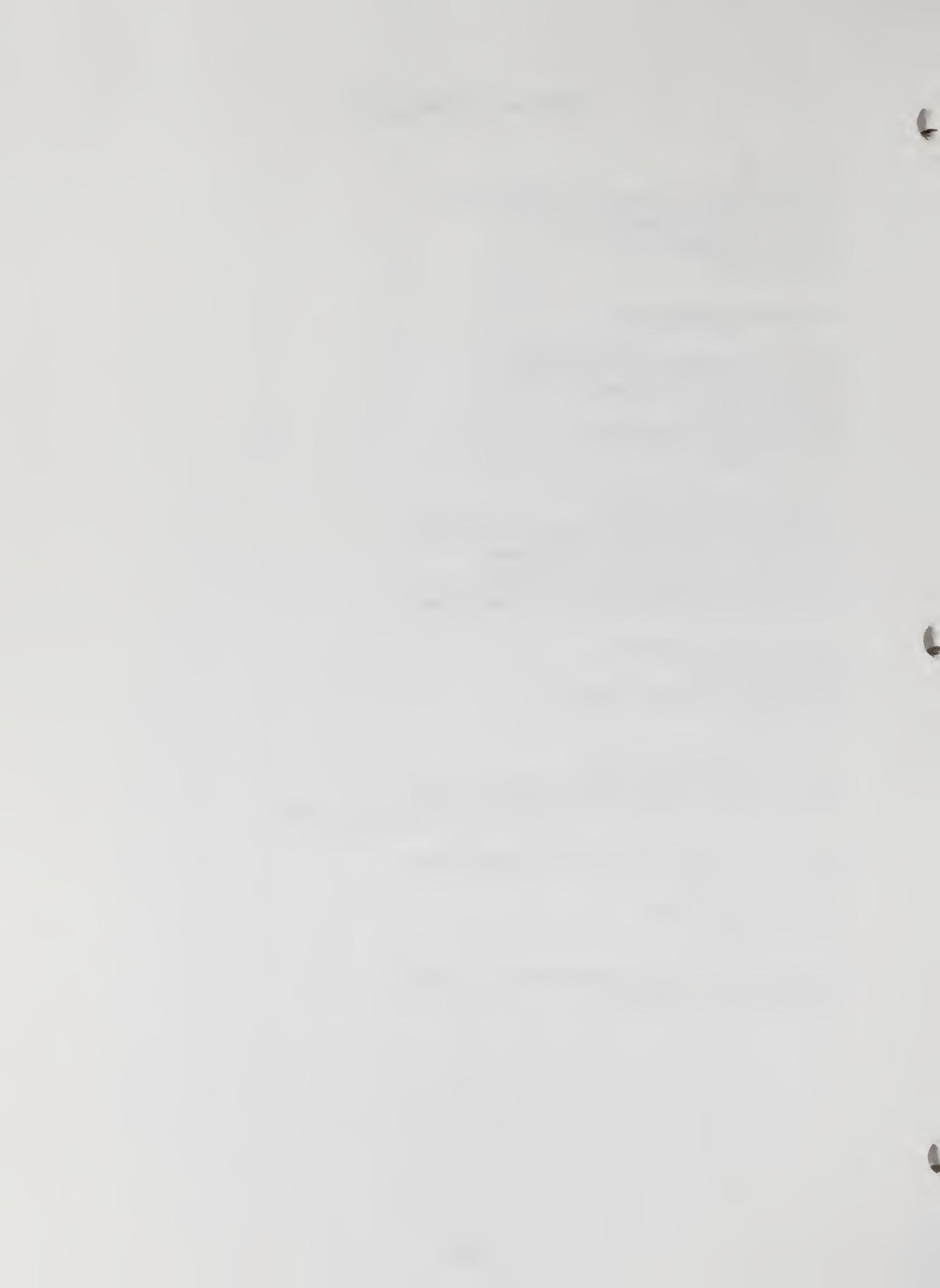
*The Darker Side of Tanning*  
*Kids! Use Your ABC'S for Safe Fun in the Sun*  
*Skin Cancer: The Undeclared Epidemic*  
*Stop! Look for Danger Signs* tip sheet  
*The Ultraviolet Index: What You Need to Know*

American Cancer Society  
30 Speen Street  
Framingham, MA 01701-1800  
800-ACS-2345

*Facts on Skin Cancer, 1988*  
*Why You Should Know About Melanoma, 1985*  
*You Can Get A Lot More From the Sun than Just Light, 1997*

United States Environmental Protection Agency  
P.O. Box 42419  
Cincinnati, OH 45242  
800-296-1996

*Ultraviolet Index: What You Need to Know, 1995*  
*Ultraviolet Index Tip Sheets*



## Curricula

*Block the Sun Not the Fun*  
American Academy of Dermatology  
930 North Meachum Road  
P.O. Box 4014  
Schaumburg, IL 60168-4014  
847-330-0230  
[www.aad.org/btsntf/index.html](http://www.aad.org/btsntf/index.html)

Project S.A.F.E.T.Y. module  
Science curriculum with *Tanlines* video  
M.D. Anderson Cancer Center  
1515 Holcombe Boulevard, Box 240  
Houston TX, 77030  
713-745-1205  
[www.mdacc.tmc.edu](http://www.mdacc.tmc.edu)

*Slip, Slop, Slap Campaign*  
Skin Savers Curriculum Guides  
American Cancer Society  
30 Speen Street  
Framingham, MA 01701-1800  
800-ACS-2345  
[www.cancer.org](http://www.cancer.org)

*Sunwise School Program*  
U.S. EPA, 401 M Street SW (MC 6205-J)  
Washington, D.C. 20460  
202-564-9096  
[www.epa.gov/sunwise](http://www.epa.gov/sunwise)

*"Best Practices" Approach for Sun Safety Awareness in Early Childhood Education Settings.* 1995. Arizona Department of Public Health, Skin Cancer Prevention Program.

To order: Wattle and Daub Consulting  
Susan M. Wolf Ph.D  
602-921-8108

## Clothing

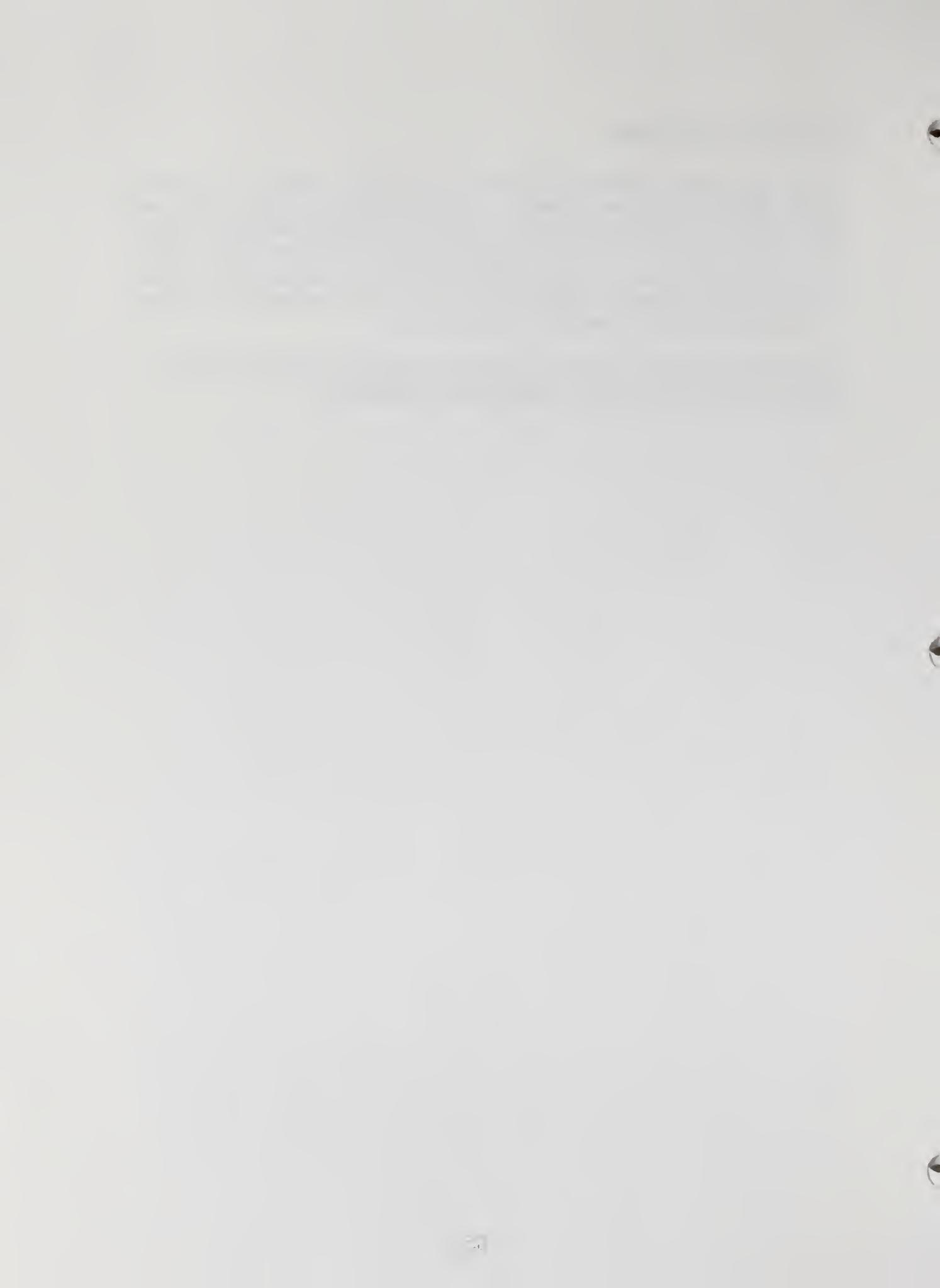
Clothing and hats should be made of densely woven cotton to block the sun. They should be light weight and light colored to keep the body temperature down. There are a few companies that have created clothing with a Sun Protection Factor of 30. They offer shirts, pants, hats, and bathing suits for adults and children. These clothes and hats provide maximum protection from ultraviolet light.



## **Sunscreen and Sunblock**

Sunscreens and sunblocks should have a Sun Protection Factor of 15 or higher and provide broad spectrum protection -- UVA and UVB protection. Sunscreens and sunblocks can expire after time so check the expiration date before using them. Sunscreens come in many different forms, (lotions, gels, sticks) use the one best suited for your skin type. Apply sunscreen and sunblock 30 minutes before going outdoors and reapply every 2 hours. Even waterproof sunscreen and sunblock should be reapplied during the day.

Call the Massachusetts Department of Public Health 617-624-5070 with any questions about the materials mentioned in this handbook.



## **Helpful Web Pages**

[www.sun-fx365.com](http://www.sun-fx365.com)

[www.infoderm.com](http://www.infoderm.com)

[www.epa.gov/ozone](http://www.epa.gov/ozone)

[www.aad.org](http://www.aad.org)

[www.cancer.org](http://www.cancer.org)

US Environmental Protection Agency Stratospheric Hotline

800-296-1996



United States  
Environmental Protection  
Agency

EPA 430-F-94-016  
June 1995

Office of Air and Radiation (6205J)

**EPA Ultraviolet  
Index:  
What You  
Need to Know**

**UV INDEX**



**D**o you know that a few simple precautions can help protect you and your children from skin cancer and serious eye injury?

While some exposure to sunlight is necessary, too much can be dangerous, causing immediate effects like blistering sunburns and longer-term problems like skin cancer and cataracts. Overexposure also causes wrinkling and aging of the skin, and scientists are concerned that UV may even impair the human immune system.

The new Ultraviolet (UV) Index provides important information to help you plan your outdoor activities in ways that prevent overexposure to the sun's rays. Developed by the National Weather Service (NWS) and the Environmental Protection Agency (EPA), the UV Index is issued daily as part of a national project.

### WHAT IS THE UV INDEX?

The UV Index describes the next day's likely levels of exposure to UV rays. The Index predicts UV levels on a 0-10+ scale in the following way:

INDEX NUMBER	EXPOSURE LEVEL
0 to 2	MINIMAL
3 to 4	LOW
5 to 6	MODERATE
7 to 9	HIGH
10 +	VERY HIGH

While you should always take precautions against overexposure, take special care to adopt the safeguards recommended below when the UV Index predicts exposure levels of moderate or above.

Some medications cause serious sun-sensitivity, as do some diseases, such as lupus erythematosus. The UV Index is *not* intended for use by seriously sun-sensitive individuals. Consult your doctor about additional precautions you may need to take.

## How Much UV Am I Being Exposed To?

UV exposure depends on many things. It varies with the time of day, season of year, latitude, and altitude. Although clouds do not eliminate exposure, they partially screen UV rays. By contrast, water, sand and snow all reflect UV rays, increasing exposure. Finally, people who work or play outdoors for long periods are at greater risk.

## WHAT ARE PROPER PRECAUTIONS?

### ■ Preventing skin cancer

Skin cancer is rising in incidence faster than any other form of cancer. Over 1 million new cases of skin cancer are likely to be diagnosed in the U.S. this year. Protecting children is especially important, since early exposures will influence risks of later skin cancers. Doctors\* recommend the following to reduce the risk of skin cancer:

- *Minimize sun exposure at midday (10:00 a.m. to 4:00 p.m.).*
- *Apply a sunscreen with SPF-15 or higher to all exposed areas sufficiently for protection, especially after swimming, perspiring or sunbathing, even on cloudy days.*
- *Reapply your sunscreen every 2 hours.*
- *Wear clothing that covers your body and shades your face and neck.*
- *Avoid unnecessary exposure to radiation from sunlamps or tanning parlors.*
- *Protect children by keeping them from excessive sun during the hours of strongest sunlight and by applying sunscreen liberally and frequently to children older than 6 months of age.*

### ■ **Preventing eye damage**

Because UV rays can cause cataracts and other serious eye conditions, doctors\* recommend that you wear sunglasses that absorb 99-100 percent of the full UV spectrum when outdoors in bright sun. Because there is now no uniform labeling of sunglasses, read labels carefully. Be careful of buying sunglasses that "block harmful UV" without saying how much. Wear a hat, with a wide brim to protect against UV exposure, and if you wear sunglasses too, you provide even more protection for your eyes. Parents whose children will not wear sunglasses can still help protect their children's eyes by making sure they wear a hat with a wide brim.

### **WHAT ROLE DOES OZONE-LAYER DEPLETION PLAY?**

The stratospheric ozone layer shields the earth from the sun's harmful ultraviolet rays. It is well established that decreases in the stratospheric ozone far above us can lead to increases in UV at the surface. Ozone changes from day to day and place to place. Long-term decreases in the average amount of ozone have been measured over the past decade. A better monitoring network is necessary to demonstrate whether there has been a corresponding change in UV radiation in the U.S. Future levels of ozone and UV will depend upon a combination of natural and manmade factors, including CFCs. Experts agree that increased exposure to harmful rays can contribute to long-term increases in skin cancer and cataracts, and harm animals and plants. Current rising rates of skin cancer are likely related to the increasing emphasis on outdoor leisure and work in our society. Whatever the sources of risk, it is important to protect yourself and your family from overexposure to harmful UV rays.

\* Prevent Blindness America, the American Optometric Association, and the American Academy of Ophthalmology



## BE SUN WISE!

Listen to UV Index reports. Use common sense precautions to avoid overexposure to the sun's ultraviolet rays. Take special care with children, since they spend more time outdoors than adults and can burn more quickly. The simple actions listed above can reduce your risks of developing UV-related skin cancers and cataracts. Take the hurt out of fun in the sun!

## THE FOLLOWING ORGANIZATIONS COLLABORATED TO BRING THIS MESSAGE TO YOU:

Alliance for Environmental Education  
American Academy of Dermatology  
American Academy of Facial Plastic and Reconstructive Surgery  
American Academy of Ophthalmology  
American Academy of Optometry  
American Academy of Otolaryngology-Head and Neck Surgery Inc.  
American Medical Association  
American Optometric Association  
American Skin Association  
American Society for Head and Neck Surgery  
American Society of Plastic and Reconstructive Surgeons  
Association of State & Territorial Health Organizations (ASTHO)  
Association of University Environmental Health Sciences Centers  
Coalition of Patient Advocates for Skin Disease Research  
Environmental Alliance for Senior Involvement (EASI)  
Friends of the Earth  
Global Rivers Environmental Education Network (GREEN)  
Lupus Foundation of America, Inc.  
NAPF National Office for the Protection of Biodiversity (Galveston, TX)  
National Association of County & City Health Officials (NACCHO)  
National Association of Physicians for the Environment  
National Medical Association  
North American Association for Environmental Education  
Ozone Action, Inc.  
Prevent Blindness America  
Save Our Sky  
Skin Cancer Foundation  
Society for Investigative Dermatology  
Wilderness Medical Society

## NEED MORE INFORMATION?

For more information on the UV Index, please call:

**EPA Stratospheric Ozone Hotline:  
(800) 296-1996**

**The National Weather Service:  
(301) 713-0622**

Medical and health organizations interested in this project, please contact the National Association of Physicians for the Environment, FAX (301) 530-8910

This information supplied by the U.S. Environmental Protection Agency in collaboration with the National Weather Service and the Centers for Disease Control and Prevention.



### Recycled/Recyclable

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## ***Safe Sun Tips from SunSpot the Do-Right Dog***

**S**hort shadow. Seek shade! Teach children to go into the shade between 10 a.m. and 3 p.m. – peak sunlight hours.

**A**pply a SPF 15 (or higher) sunscreen that blocks both UVB and UVA rays whenever your child spends time outdoors. This includes soccer camp, biking, picnicking and the beach! Be sure to apply sunscreen liberally and evenly to all exposed skin and reapply at least every two hours.

**F**un in the sun needs to be limited. Limit your child's time in the sun during hot, sunny days.

**E**very child needs to cover up with wide-brimmed hats and shirts.

**S**unscreen should not be used on babies less than six months old. Their ultra-sensitive skin requires they stay out of the sun entirely.

**U**nderstand that sand, water, cement and snow can reflect as much as half the sun's rays onto your children's skin even if they are in the shade.

**N**o tan is a healthy tan. A tan is a sign of injured skin from the sun's damaging rays – even if your child doesn't burn first.

**Teach your child sun protection habits that will last a lifetime!**

## *About Skin Cancer*

- Skin cancer is the most common of all cancers.
- One in every six Americans develops skin cancer at some point in life.
- Sun exposure causes at least 90% of all skin cancers.
- Most of a person's lifetime sun exposure occurs before the age of 18.
- Skin cancer is almost completely curable when treated in its earliest stages.
- **The good news is that almost all skin cancers are preventable by practicing Sun Safety throughout childhood!**

## *For More Information*

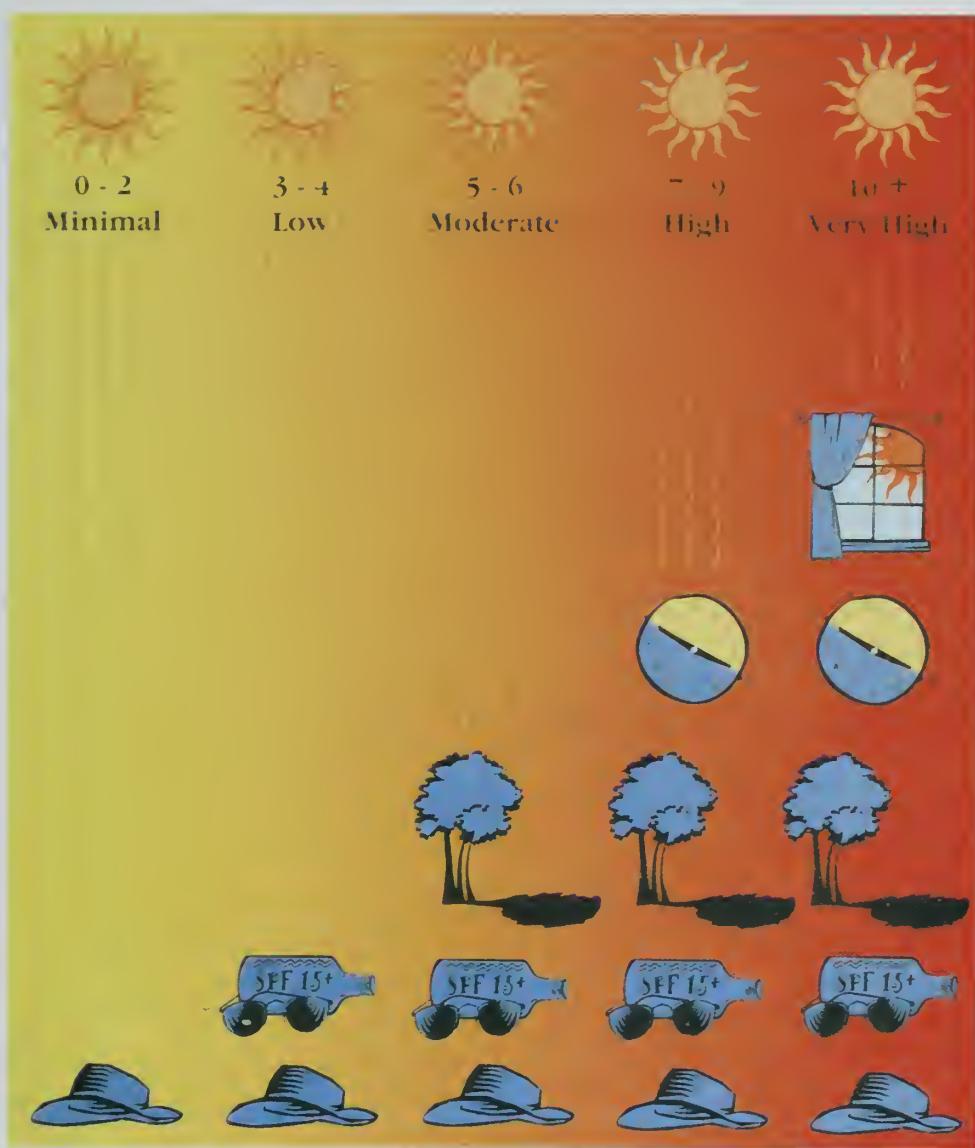
Massachusetts Department of Public Health  
Bureau of Family and Community Health  
617-624-5448



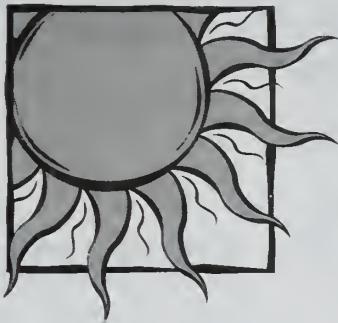
The Safe Skin Project

A Project of the Massachusetts Department of Public Health

# EPA THE SUN, UV, AND YOU: A Guide to the UV Index and Sun-Safe Behavior







While some exposure to sunlight is enjoyable, too much can be dangerous, causing immediate effects like blistering sunburns and longer-term problems like skin cancer and cataracts. Overexposure also causes wrinkling and aging of the skin, and scientists are concerned that UV may even impair the human immune system.

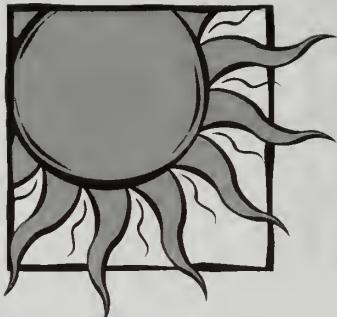
The U.S. Environmental Protection Agency has prepared this booklet to help you understand the risks from overexposure to the sun's harmful ultraviolet rays and how to protect yourself and your loved ones from UV radiation.

This booklet presents the following information:

- ❑ The science behind UV radiation and stratospheric ozone
- ❑ The health risks from overexposure to UV radiation
- ❑ The steps you can take to protect yourself and your children
- ❑ What the UV Index is and how you can use it to help protect yourself and your children
- ❑ Where to get more information about the UV Index and ways to protect yourself from the sun

We hope you find this booklet useful and that you will use the information provided to help you Be Sun Wise!





## UV RADIATION

The sun gives out energy over a broad spectrum of wavelengths. Ultraviolet (UV) radiation, which has a shorter wavelength than either visible blue or violet light, is responsible for sunburn and other adverse health effects. Fortunately for life on earth, stratospheric ozone screens most harmful UV radiation. However, what gets through the ozone layer can cause a number of problems, particularly for people who spend substantial time outdoors:

- skin cancer
- immune suppression
- cataracts
- premature aging of the skin

Because of these adverse health effects, you should limit your exposure to UV radiation and protect yourself when working, playing or exercising outdoors.

### TYPES OF UV RADIATION

Scientists have classified UV radiation into three types — UVA, UVB, and UVC.

The stratospheric ozone layer absorbs some but not all of these types of UV:

#### **UVA**

Not absorbed by the ozone layer

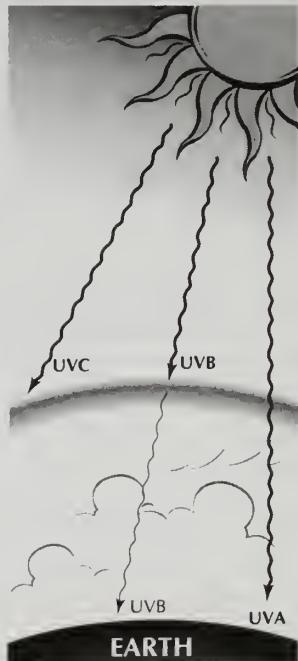
#### **UVB**

Partially absorbed by the ozone layer

#### **UVC**

Completely absorbed by the ozone layer

UVA and especially UVB penetrate the surface of the skin and can cause the adverse health effects listed above.



## UV LEVELS DEPEND ON A NUMBER OF FACTORS –

### **STRATOSPHERIC OZONE**

The ozone layer absorbs most of the sun's harmful UV rays, but its thickness varies depending on the time of year and changing weather patterns. The ozone layer has thinned in certain areas due to emissions of ozone-depleting chemicals widely used in industry.

### **TIME OF DAY**

The sun is at its highest in the sky around the noon hour. At this time, the sun's rays have the least distance to travel through the atmosphere and UVB levels are at their highest. In the early morning and late afternoon the sun's rays pass obliquely through the atmosphere and the intensity of UVB is greatly reduced. UVA levels are not sensitive to ozone and vary throughout the day much like visible sunlight does.

### **TIME OF YEAR**

The sun's angle varies with the seasons, causing the intensity of UV rays to vary. UV intensity tends to be highest during the summer months.

### **LATITUDE**

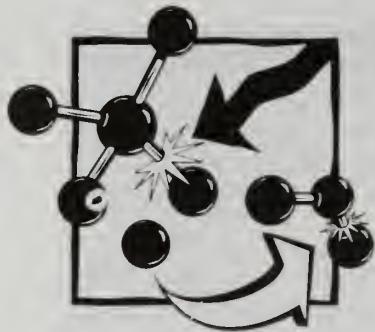
The sun's rays are strongest at the equator where the sun is most directly overhead and UV rays must travel the least distance through the atmosphere. Ozone is also naturally thinner in the tropics compared to the mid- and high-latitudes, so there is less ozone to absorb the UV radiation as it passes through the atmosphere. At higher latitudes the sun is lower in the sky, so UV rays must travel a greater distance through ozone-rich portions of the atmosphere and in turn expose those latitudes to less UV radiation.

### **ALTITUDE**

UV intensity increases with altitude because there is less atmosphere to absorb the damaging rays.

### **WEATHER CONDITIONS**

Cloud cover reduces UV levels, but not completely. Depending on the thickness of the cloud cover, it is possible to burn on a cloudy summer day even if it doesn't feel very warm.



## OZONE DEPLETION

The ozone layer forms a thin shield in the stratosphere, protecting life on earth from the sun's harmful ultraviolet (UV) rays. In the 1980s, scientists began accumulating evidence that the ozone layer was being depleted. Depletion of the ozone layer can result in increased UV radiation reaching the earth's surface, which can lead to greater chance of overexposure to UV and the consequent health effects, including skin cancer, cataracts, and immune suppression.

### HOW STRATOSPHERIC OZONE PROTECTS US

Ozone is a naturally occurring gas found in the earth's atmosphere that absorbs certain wavelengths of the sun's UV radiation. Ozone is concentrated in a part of the atmosphere called the stratosphere. Stratospheric ozone is most concentrated between 6-30 miles above the earth's surface.

Ozone is formed when oxygen molecules absorb UV radiation and split apart into two oxygen atoms (O), which combine with other oxygen molecules (O<sub>2</sub>), to form ozone molecules (O<sub>3</sub>). Ozone is also broken apart as it absorbs UV radiation. In this way, UV helps sustain the natural balance of ozone in the stratosphere, while ozone in turn absorbs UV, protecting life on earth from harmful radiation.

### HOW OZONE IS DEPLETED

Chlorofluorocarbons (CFCs) are used widely in industry and elsewhere as refrigerants, insulating foams, and solvents. They migrate into the upper atmosphere after use. Because they are heavier than air, they have to be carried by air currents into the stratosphere, a process that can take as long as 5 to 10 years. These chemicals absorb UV radiation, break apart, and react with ozone, taking one oxygen atom away and forming highly reactive chlorine monoxide. Chlorine monoxide (ClO) in turn breaks down O<sub>3</sub> again by pulling away a single oxygen atom, creating two O<sub>2</sub> molecules, and allowing the Cl to move freely to another ozone molecule. In this way each chlorine atom acts as a catalyst, repeatedly combining with and breaking apart as many as 100,000 ozone molecules during its stratospheric life.

Other compounds also damage the ozone layer in much the same way as do CFCs. These ozone-depleting substances include pesticides such as methyl bromide, halons used in fire extinguishers, and methyl chloroform used in industrial processes.



## WHAT IS BEING DONE ABOUT OZONE DEPLETION

Countries around the world have recognized the threats posed by ozone depletion and have responded by adopting the Montreal Protocol on Substances That Deplete the Ozone Layer. Parties to this treaty, including the United States, are phasing out the production of ozone-depleting substances.

## EFFECT OF OZONE LAYER DEPLETION ON UV RADIATION LEVELS

Scientists predict that CFC levels should peak by the turn of the century and should fall to 1979 levels between the years 2020 and 2050. As international control measures reduce the release of CFC's and other ozone depleting substances, the natural atmospheric process will repair the ozone layer. Until that time, we can expect increased levels of UV at the Earth's surface. These increased UV radiation levels can lead to a greater chance of overexposure to UV radiation and the consequent health effects.





## HEALTH EFFECTS FROM OVEREXPOSURE TO THE SUN

**A**mericans love the sun, and spend increasing amounts of time outside — working, playing, exercising — often in clothing that exposes a lot of skin to the sun. Most people are now aware that too much sun has been linked to skin cancer, but few know the degree of risk posed by overexposure, and fewer are aware that the risks go beyond skin cancer. Recent medical research has shown that overexposure to the sun's ultraviolet (UV) radiation can contribute to serious health problems.

This section provides a quick overview of the major problems linked to UV exposure: skin cancer (melanoma and non-melanoma), other skin problems, cataracts, and immune system suppression. Understanding these risks and taking a few sensible precautions (described in this booklet) will help you to enjoy the sun while lowering your chances of sun-related health problems later in life.

### **MELANOMA**

Melanoma, the most serious form of skin cancer, is also one of the fastest growing types of cancer in the U.S. Many dermatologists believe that there may be a link between childhood sunburns and malignant melanoma later in life. Melanoma cases in this country have almost doubled in the past two decades, with at least 32,000 new cases of melanoma and 6,900 deaths estimated for 1994 alone. The rise in melanoma cases and deaths in America is expected to continue.

### **Cure Rate**

Melanoma can spread to other parts of the body quickly, but when detected in its earliest stages it is almost always curable. If not caught early, melanoma is often fatal.

### **Warning Sign**

Melanoma begins as an uncontrolled growth of pigment-producing cells in the skin. This growth leads to the formation of dark-pigmented malignant moles or tumors, called melanomas. Melanomas may suddenly appear without warning, but may also develop from or near a mole. For that reason it is important to know the location and appearance of moles on the body so any change will be noticed. Melanomas are found most frequently on the upper backs of men and women, and the legs of women, but can occur anywhere on the body.

Be aware of any unusual skin condition, especially a change in the size or color of a mole or other darkly or irregularly pigmented growth or spot; scaliness, oozing, bleeding or change in the appearance of a bump or nodule; spread of pigment from the border into surrounding skin; and change in sensation including itchiness, tenderness, or pain.

### **NON-MELANOMA SKIN CANCERS**

Unlike melanoma, non-melanoma skin cancers are rarely fatal. Nevertheless, they should not be taken lightly. Untreated, they can spread, causing more serious health problems. An estimated 900,000 Americans developed non-melanoma skin cancers in 1994, while 1,200 died from the disease.

There are two primary types of non-melanoma skin cancers:

Basal Cell Carcinomas are tumors of the skin which usually appear as small, fleshy bumps or nodules on the head and neck, but can occur on other skin areas as well. It is the most common skin cancer found among fair-skinned people. Basal cell carcinoma does not grow quickly, and rarely spreads to other parts of the body. However, it can penetrate below the skin to the bone and cause considerable local damage.

Squamous Cell Carcinomas are tumors which may appear as nodules or as red, scaly patches. The second most common skin cancer found in fair-skinned people, squamous cell carcinoma is rarely found in darker-skinned people. This cancer can develop into large masses, and unlike basal cell carcinoma, it can spread to other parts of the body.

### **Cure Rate**

These two non-melanoma skin cancers have high cure rates — as high as 95 percent if detected and treated early. The key is to watch for signs and to detect the cancer in its early stages.

### **Warning Sign**

Basal cell carcinoma tumors usually appear as slowly growing, raised, translucent, pearly nodules which, if untreated, may crust, discharge pus, and sometimes bleed. Squamous cell carcinomas usually are raised, red or pink scaly nodules or wart-like growths that form pus in the center. They typically develop on the edge of the ears, the face, lips, mouth, hands and other exposed areas of the body.

### **ACTINIC KERATOSES**

These sun-induced skin growths occur on body areas exposed to the sun. The face, hands, forearms and the "V" of the neck are especially susceptible to this type of blemish. They are pre-malignant, but left untreated, actinic keratoses can become malignant. Look for raised, reddish, rough-textured growths. See a dermatologist promptly if you notice these growths.

### **PHOTOAGING**

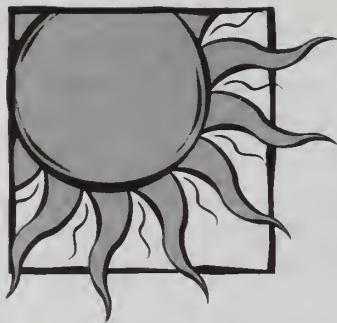
Chronic exposure to the sun causes changes in the skin called actinic, or solar, degeneration. The skin over time becomes thick, wrinkled, and leathery. This condition has often been referred to as "premature aging" of the skin. Since it occurs gradually, often manifesting itself many years after the majority of a person's exposure to the sun, photoaging is often regarded as an unavoidable condition, a normal part of growing older. With proper protection from UV radiation, however, photoaging can be substantially avoided.

### **CATARACTS AND OTHER EYE DAMAGE**

Cataracts are a form of eye damage, a loss of transparency in the lens which clouds vision. Left untreated, cataracts can rob people of vision. Research has shown that UV radiation increases the likelihood of certain cataracts. Although curable with modern eye surgery, cataracts diminish the eyesight of millions of Americans, and necessitate millions of dollars of eye surgery each year. Other kinds of eye damage include: pterygium (tissue growth on the white of the eye that can block vision), skin cancer around the eyes, and degeneration of the macula (the part of the retina near the center, where visual perception is most acute). All of these problems could be lessened with proper eye protection from UV radiation.

### **IMMUNE SUPPRESSION**

Scientists have found that sunburn can alter the distribution and function of disease-fighting white blood cells in humans for up to 24 hours after exposure to the sun. Repeated exposure to UV radiation may cause more long-lasting damage to the body's immune system. Mild sunburns can directly suppress the immune functions of human skin where the sunburn occurred, even in people with dark skin.



## ACTION STEPS FOR SUN PROTECTION

### TOO MUCH SUNLIGHT CAN BE DANGEROUS....

Excessive sun exposure can result in painful sunburn, but can also lead to other serious health problems, including melanoma, a life-threatening form of skin cancer. Melanoma is one of the fastest growing forms of cancer in the U.S. In addition to melanoma, excessive UV exposure can lead to premature aging of the skin, cataracts, non-melanoma skin cancers, and immune system suppression.

### BE SUN WISE

Protecting yourself from overexposure to UV radiation is simple if you take the precautions listed below.



#### ***WEAR SUNGLASSES THAT BLOCK 99-100% OF UV RADIATION***

Sunglasses that provide 99-100% UVA and UVB protection will greatly reduce sun exposure that can lead to cataracts and other eye damage. Check the label when buying sunglasses.



#### ***WEAR A HAT***

A hat with a wide brim offers good sun protection to your eyes, ears, face, and the back of your neck —areas particularly prone to overexposure to the sun.



#### ***PROTECT OTHER AREAS OF YOUR BODY WITH CLOTHING DURING PROLONGED PERIODS IN THE SUN***

Tightly-woven, loose-fitting clothes are best, but any clothing is better than none at all.



### ALWAYS USE A SUNSCREEN WHEN OUTSIDE ON A SUNNY DAY

A sunscreen with a Sun Protection Factor (SPF) of at least 15 blocks most harmful UV radiation. Apply sunscreen liberally and reapply every two hours when working, playing, or exercising outdoors. Even waterproof sunscreen can come off when you towel off sweat or water. Children under six months of age should never have sunscreen applied to their skin, but should be protected by avoiding too much time outdoors.

### AVOID THE MIDDAY SUN AS MUCH AS POSSIBLE

The sun's UV rays are strongest between 10 a.m. and 4 p.m. To the extent you can, limit exposure to the sun during these hours.

### AVOID SUNLAMPS AND TANNING PARLORS

Sunbeds damage the skin and unprotected eyes and are best avoided entirely.

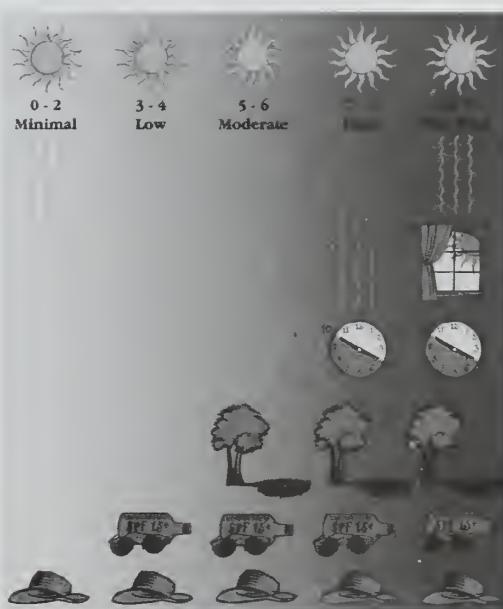
### WATCH FOR THE UV INDEX

The UV Index provides important information to help you plan your outdoor activities in ways that prevent overexposure to the sun's rays. Developed by the National Weather Service (NWS) and the Environmental Protection Agency (EPA), the UV Index is issued daily in selected cities across the U.S.

**THE UV INDEX DESCRIBES THE NEXT DAY'S LIKELY LEVELS OF EXPOSURE TO UV RAYS.**

**THE INDEX PREDICTS UV LEVELS ON A 0-10+ SCALE IN THE FOLLOWING WAY:**

INDEX NUMBER	EXPOSURE LEVEL
0 to 2	Minimal
3 to 4	Low
5 to 6	Moderate
7 to 9	High
10+	Very High



While you should always take precautions against overexposure, you should take special care to adopt the safeguards recommended above when the UV Index predicts exposure levels of moderate or above.

Some medications cause serious sun sensitivity, as do some diseases, such as lupus erythematosus. The UV Index is *not* intended for use by seriously sun-sensitive individuals. Consult your doctor about additional precautions you may need to take.



## SPECIAL CONSIDERATIONS FOR CHILDREN

**A**lthough many of the sun's worst effects do not appear until later in life, recent medical research has shown that it is very important to protect children and teenagers from overexposure to UV radiation. The majority of most people's sun exposure occurs before age 20, and studies increasingly suggest a link between early exposure and skin cancer as an adult.

### HELPING CHILDREN BE SUN WISE

Take special care with children, since they spend more time outdoors than adults and can burn more quickly. The precautions described in this booklet can help ensure that the children around you avoid UV-related health problems, both now and later in life. Started early and followed consistently, each of these steps will become an easy, accepted habit, no more bothersome than fastening seatbelts every time you drive the car.



## HOW NWS CALCULATES THE UV INDEX

The National Weather Service (NWS) uses a computer model to calculate the next day's UV levels for selected cities across the United States. The model takes into account a number of factors, including the amount of ozone and clouds overhead, latitude, elevation, and time of year.

To compute the UV Index forecast, the model first calculates a UV dose rate, or amount of UV radiation to which a person will be exposed at the next day's solar noon (when the sun is highest in the sky) under "clear sky" (no clouds) conditions.

The UV dose rates obtained from the model are then adjusted for the effects of elevation and cloud cover at specific locations. Higher elevations will increase the UV dose rate because there is less atmosphere to absorb and scatter UV rays. Greater cloud cover will tend to reduce the UV dose rate because clouds screen out some—but not all—UV rays.

The resulting value is the next day's UV Index forecast. The UV forecasts for selected locations are provided daily on a 0-10+ scale, where 0 indicates a minimal likely level of exposure to UV rays and 10+ means a very high level of exposure.



## FOR MORE INFORMATION

To learn more about the UV Index and how to protect yourself from overexposure to the sun's UV rays, call EPA's Stratospheric Ozone Hotline at (800) 296-1996. Hotline staff can supply you with fact sheets and other useful information.







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